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THE UNIVERSITY OF ALBERTA
THE RELATIONSHIP OF PROFESSIONAL ORIENTATION OF TEACHERS
TO HIERARCHICAL AUTHORITY, PROCEDURAL
SPECIFICATION, AND SATISFACTION

by



LOWELL JEM THRONDSO

A THESIS
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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "The Relationship of Professional Orientation of Teachers to Hierarchical Authority, Procedural Specification, and Satisfaction" submitted by Lowell Jem Thronndson in partial fulfilment of the requirements for the degree of Master of Education.

ABSTRACT

The central problem of this study was to determine what relationship exists between the professional orientation of teachers, and (1) their satisfaction with differing levels of hierarchical authority and (2) their satisfaction with differing levels of procedural specification within the school. The study also investigated the relationship between professional orientation, and (3) general satisfaction of teachers with hierarchical authority and procedural specification combined, and (4) global satisfaction of teachers with the broader aspects of teaching.

Two hundred and forty-five teachers employed in sixteen different schools in four sub-urban school systems provided the data for the study.

The professional orientation of teachers was obtained from teacher responses to the Teacher Opinion Questionnaire which was an extension of Hrynyk's Professional Role Orientation Scale. Items were added to each of Hrynyk's five professionalism sub-scales. The extended Professional Role Orientation Scale and Hrynyk's original instrument were factor analyzed. On only one of the five sub-scales, namely Core-Organization, did the items added form a meaningful cluster with Hrynyk's items. For this reason Hrynyk's instrument was used in the analysis of the data. Teacher responses to the Organizational Inventory and Satisfaction Scale were used for classifying teachers according to their degree of satisfaction with differing levels of each of hierarchical authority and procedural

specification. The total of the satisfaction items provided a measure of general satisfaction with the two organizational characteristics combined. The Global Satisfaction Scale provided a measure of teacher satisfaction with the broader aspects of teaching.

In general, no support was found for the hypothesis that teachers whose professional orientation is high will be more satisfied with low levels of hierarchical authority within the school than teachers whose professional orientation is low.

Little evidence was found to support the hypothesis that teachers whose professional orientation is high will be more satisfied with low levels of procedural specification within the school than teachers whose professional orientation is low.

The evidence appeared to suggest that teachers high in satisfaction with high procedural specification had a significantly higher professional orientation score than did teachers who indicated a low satisfaction with high procedural specification. This finding must be viewed with caution because on only one sub-scale, namely Core-Organization, was there found to be a significant difference between these two groups of teachers.

High professionally oriented teachers were found to have significantly higher general satisfaction with the combined aspects of hierarchical authority and procedural specification, and higher global satisfaction with the broader aspects of teaching than low professionally oriented teachers.

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CHAPTER I

THE PROBLEM

I. INTRODUCTION

Some of the earlier literature pertaining to organizational theory suggests that a contrast exists between the independent professional and the bureaucrat. Recent literature reflects the change that has taken place in society during the last decade. The focus today is on the relationship between two institutions--the "profession" and the "bureaucracy"--and an analysis of the interaction between them.¹

Theoretical formulations by writers such as Weber, Argyris, and Presthus have stimulated thought and concern in regard to this interaction.^{2,3,4} Two developments, according to Hall, have increased the interest in the relationship between the professional

¹W. Scott, "Professionals in Bureaucracies--Areas of Conflict," Professionalization, Howard M. Vollmer and Donald L. Mills, editors (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1966), p. 266.

²M. Weber, The Theory of Social and Economic Organization, A. R. Henderson and Talcott Parsons (trans.), (London: William Hodge and Company Limited, 1947).

³C. Argyris, Personality and Organization (New York: Harper and Row, 1957).

⁴R. Presthus, The Organizational Society (New York: Alfred A. Knopf, Inc., 1962).

and the bureaucratic setting in which he works.⁵ First of all, members of the traditional professions are increasingly finding themselves employed in an organizational setting. Secondly, and of greatest importance to this study, is the attempt in recent years by previously considered semi-professionals, such as teachers, to become more professionalized. It is this professionalization that has caused some theorists to suggest that conflict will result because of the basic incompatibility between professional and organizational norms and values.

A number of studies have been completed which provide insights into the nature of teacher professionalism. Ratsoy looked at the attitudes of prospective teachers.⁶ Corwin did research in the measurement of teacher professionalism.⁷ Robbins and Hughes have developed an instrument for the measurement of the attitudes of teachers toward teaching as a profession.⁸ Hrynyk recently investigated the professional orientation of experienced

⁵R. Hall and C. Tittle, "A Note on Bureaucracy and Its Correlates," American Journal of Sociology, LXXII (November, 1966), p. 462.

⁶E. W. Ratsoy, "Comparative and Cross-Sectional Study of Attitudes of Prospective Teachers" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1965).

⁷R. G. Corwin, "The Development of An Instrument for Examining Staff Conflicts in the Public Schools" (Columbus: Ohio State University, 1964).

⁸R. Robbins and H. Hughes, "Measurement of the Attitudes of Teachers Toward 'Teaching as a Profession'," The Journal of Educational Research, LX (February, 1967).

teachers using a multi-dimensional instrument which he developed.⁹

The concept of bureaucracy and its applicability to the school setting was researched by MacKay using a five-dimensional instrument.¹⁰ Robinson and MacKay refined the instrument further for Robinson's investigation.¹¹ Robinson also utilized Corwin's instrument which provided a global rating of teacher professionalism which he correlated with the bureaucratic dimensions of hierarchical authority, specialization, rules for incumbents, procedural specification, impersonality, and technical competence.¹² Eddy analyzed the local-cosmopolitan role orientation of teachers and its relationship to organizational characteristics of schools.¹³ Schmit related the

⁹N. P. Hrynyk, "Correlates of Professional Role Orientation in Teaching" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1966).

¹⁰D. A. MacKay, "An Empirical Study of Bureaucratic Dimensions and Their Relation to Other Characteristics of School Organizations" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1964).

¹¹N. Robinson, "A Study of the Professional Role Orientations of Teachers and Principals and Their Relationship to Bureaucratic Characteristics of School Organizations" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1966).

¹²Ibid., p. 151.

¹³W. P. Eddy, "The Relationship of Local-Cosmopolitan Role Orientation to Organizational Characteristics of Schools" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1968).

professional orientation of teachers to hierarchical authority, and in addition investigated various aspects of teacher satisfaction.¹⁴

A review of recent research and literature revealed a lack of agreement as to whether or not conflict exists between the professional orientation of teachers and bureaucratic characteristics of school organization. Teachers who wish to operate as professionals may not be satisfied with schools that place an emphasis on hierarchical authority and procedural specification. For instance, Schmit found that teachers appear to be least satisfied with schools high in hierarchical authority.¹⁵ Anderson also suggested that professionals within highly structured bureaucratic institutions may find their role quite significantly altered.

Coming to the organization with expectations of independence and professional autonomy, professionals find they are expected to fulfil role obligations that include conformance to rules and operating procedures and deference to hierarchical authority.¹⁶

How satisfied are teachers who are required to conform to a school's operating procedures? Does the degree of authority used

¹⁴D. Schmit, "A Study of Teacher Satisfaction in Relation to Professional Orientation and Perceived Hierarchical Authority in the School" (unpublished M.Ed. thesis, University of Alberta, Edmonton, 1968).

¹⁵Ibid., p. 67.

¹⁶J. G. Anderson, "The Teacher: Bureaucrat or Professional?" Educational Administration Quarterly III (Autumn, 1967), p. 293.

by the administration in a school setting affect teacher satisfaction? How do the factors that constitute a teacher's professional orientation relate to teacher satisfaction with differing levels of hierarchical authority and procedural specification? These are some of the problems that seem to require further investigation.

II. STATEMENT OF THE PROBLEM

The central problem of this thesis was to determine the relationship between the professional orientation of teachers and their satisfaction with selected aspects of school organization. This problem can be stated more specifically in the form of the following sub-problems:

1. What is the relationship between the professional orientation of teachers and their satisfaction with differing levels of hierarchical authority within the school?

2. What is the relationship between the professional orientation of teachers and their satisfaction with differing levels of procedural specification within the school?

III. IMPORTANCE OF THE STUDY

As has already been indicated, a number of studies have looked independently at the concepts of teacher professionalism, and bureaucracy and its applicability to the school setting.¹⁷

¹⁷ Supra, p.2.

These studies provided information that related to the professional orientation of teachers, and the applicability of the bureaucratic model to school organization analysis. In addition, these earlier studies provided a base for more recent investigations which examine the relation and interaction between a teacher's orientation to the teaching profession and bureaucratic characteristics of school organization.¹⁸

Although some attempt has been made to look at school organization from a multi-dimensional point of view and relate this to teacher professionalism, little if any attempt has been made to relate the various dimensions of the professional role orientation of teachers to selected bureaucratic dimensions of school organization.

Hrynyk extracted five dimensions that describe the attitudes, beliefs, and relationships that individuals hold who have an ideal professional orientation.¹⁹ These dimensions included an orientation to knowledge, service, client-autonomy, core-organization, and colleague-profession.²⁰

Because professional role orientation of teachers appears to be a multi-dimensional concept, it would seem logical that a study utilizing a multi-dimensional approach may provide new insights

¹⁸Ibid.

¹⁹Hrynyk, op. cit., pp. 37-38.

²⁰Ibid.

into the relationship between teachers' professional role orientations and bureaucratic characteristics of school organization. The better the constituent parts of professionalism are understood, the better the understanding of the characteristics of professionalism as a totality.

Furthermore, this study would appear to have some very practical implications for practising school administrators. It is becoming more important for administrators to be cognizant of possible differences in professional orientation among their teachers as these may affect the way in which teachers interpret the goals of education. Similarly, Hartley suggests that a knowledge of the effects of the relationship between the orientation of teachers and the formal structure of the school may be used by the practising administrator in areas such as the following:

. . . selection of personnel, choice of administrative interaction with staff members, development of teacher morale, and others which contribute directly or indirectly to an improvement in the teacher-learning situation.²¹

MacKay, after investigating bureaucratic trends in school organizations, suggests that an increase in the use of hierarchical authority, reliance on written rules, and procedural specification is related to a drop in productivity as measured by pupil achievement.²² On the basis of this finding alone, further study appeared warranted.

²¹H. J. Hartley, "Educational Bureaucracy, Teacher Orientation and Selected Criterion Variables," The Journal of Educational Research LX (October, 1966), p. 54.

²²MacKay, op. cit., pp. 151-152.

IV DEFINITION OF TERMS

Professional Orientation Score

This term refers to the total score that a teacher received on the Professional Role Orientation Scale (PROS).

High and Low Professional Orientation

Teachers had a high professional orientation if they received a score in the upper third of all the scores on PROS, or if they had a statistically significant higher mean professional orientation score than other teachers.

Teachers had a low professional orientation if they received a score in the lower third of all the scores on PROS, or if they had a statistically significant lower professional orientation score than other teachers.

Satisfaction with Level of Hierarchical Authority

On the basis of the two total scores that a teacher received on the first twelve items of the Organizational Inventory and Satisfaction Scale, teachers were assigned to one of four categories, namely (1) high satisfaction with low hierarchical authority, (2) high satisfaction with high hierarchical authority, (3) low satisfaction with low hierarchical authority, and (4) low satisfaction with high hierarchical authority.

Satisfaction with Level of Procedural Specification

On the basis of the two total scores that a teacher received

on the last ten items of the Organizational Inventory and Satisfaction Scale, teachers were assigned to one of four categories, namely, (1) high satisfaction with low procedural specification, (2) high satisfaction with high procedural specification (3) low satisfaction with low procedural specification, and (4) low satisfaction with high procedural specification.

General Satisfaction

This term refers to the expressed satisfaction of teachers to the combined aspects of hierarchical authority and procedural specification.

Global Satisfaction

This term refers to the expressed satisfaction of teachers to their present teaching position, teaching as a career, the job their school was doing in educating its students, and the teacher's relationships with other staff members.

V. ASSUMPTIONS, LIMITATIONS, AND DELIMITATIONS

Assumptions

1. This study assumes that an individual's professional orientation and satisfaction are measurable by means of questionnaire.

2. This study assumes that the instruments being used produce valid and reliable measures of the concepts being measured.

Limitations

1. The sample for this study was not randomly selected.
2. The variables of hierarchical authority and procedural specification represent only selected aspects of school organization. Other aspects such as division of labor, impersonality, and technical competence were not a focus of this study.
3. The classification of teachers into four categories represented a further limitation of this study.

Delimitations

1. This study was delimited to full-time teachers in sixteen schools in four school systems adjacent to the city of Edmonton.
2. Principals and vice-principals were not included in the study.

CHAPTER II

THEORETICAL BASE, REVIEW OF RELATED LITERATURE AND STATEMENT OF HYPOTHESES

I. BACKGROUND

Scott suggests that "two institutions are involved in the relation between professionals and bureaucracies."¹ Moreover, it is important to understand that a profession and a bureaucracy are based on fundamentally different principles.² Because of the professional's orientation to his profession, he is likely to find himself in conflict with some of the characteristics of the bureaucratic organization. Scott suggests the following four areas of conflict:

1. the professional's resistance to bureaucratic rules;
2. the professional's rejection of bureaucratic standards;
3. the professional's resistance to bureaucratic supervision; and
4. the professional's conditional loyalty to the bureaucracy.³

Pondy indicates that conflict is a dynamic process which is found to be underlying a wide range of behaviour present in the organization.⁴ He suggests that conflict may result from "drives

¹W. R. Scott, "Professionals in Bureaucracies--Areas of Conflict," Professionalization, H. M. Vollmer and D. L. Mills, editors, (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1966), p. 265.

²Ibid.

³Ibid., p. 269.

⁴L. R. Pondy, "Organizational Conflict: Concepts and Models," Administrative Science Quarterly, XII (September, 1967), p. 319.

for autonomy" or "role conflict."⁵

Other research, such as Hall's, illustrates that the relationship between the professional and the organization need not be one of conflict.⁶

The literature relating to professionalization is replete with evidence which supports one point of view or the other. What are the basic principles which suggest that conflict may lead to dissatisfaction for the professional?

Bureaucratic Principles

MacKay reviews Hall's summary of writings on the principles that constitute an ideal-type of bureaucracy. Hall considered the following as essential characteristics of a bureaucratic organization: (1) Hierarchy of authority, (2) Division of labor, (3) Behavioral rules, (4) A system of procedures (5) Impersonality, and (6) An emphasis on competence.⁷

Robinson and MacKay adapted the above principles to fit the educational setting:

1. Hierarchical Authority

A good school will have well-defined differences between teachers and administrators insofar as authority and status are concerned.

⁵Ibid., p. 300.

⁶R. Hall, "Some Organizational Considerations in the Professional--Organizational Relationship," Administrative Science Quarterly, XII (December, 1967), pp. 461-478.

⁷D. A. MacKay, "An Empirical Study of Bureaucratic Dimensions and Their Relation to Other Characteristics of School Organization" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1964).

2. Division of Labor

A good school will have each of its staff members assigned to the teaching of one or two specialized subjects based upon their specialized training and experience; and a good elementary school will have each of its staff members assigned to teaching in a particular grade level (primary or intermediate) based on their specialized training and experience.

3. Rules for Incumbents

A good school will have a system or written rules for teachers designed to cover most situations.

4. Procedural Specification

A good school will have a well-defined system of standard procedures for the guidance of staff members in their class-teaching and other school work.

5. Impersonality

A good school will operate on the basis that every person in the organization (administrators, teachers, pupils, and parents) is to receive exactly the same kind of treatment, and that no personal feelings should have an effect on working relationships between teachers, administrators, students and parents.

6. Technical Competence

A good school appoints and promotes staff members on the basis of professional competence.⁸

Items, based on these definitions, were constructed to measure the presence of these characteristics within the school setting.

Professional Principles

Greenwood made a careful survey of the sociological literature on occupations and identified the following characteristics as essential elements in an ideal-type profession:

⁸N. Robinson, "A Study of the Professional Role Orientations of Teachers and Principals and Their Relationship to Bureaucratic Characteristics of School Organizations" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1966).

1. a basis of systematic theory,
2. authority recognized by the clientele of the professional group,
3. broader community sanction and approval of this authority,
4. a code of ethics regulating relations of professional persons with clients and with colleagues, and
5. a professional culture sustained by professional associations.⁹

Hrynyk defines professionalism as a ". . . constellation of beliefs, attitudes and orientations which are held by members of a particular occupation and its component activities."¹⁰ In addition he suggests a teacher with a high professional role orientation will display the following characteristics:

1. The Knowledge oriented has an orientation which emphasizes the intellectual application of an estoric body of knowledge and special skills toward the achievement of educational goals. He emphasizes the academic content of his subject field as well as the unique knowledge that is required for teaching.
2. The Service oriented has an orientation towards a service ideal and sees himself as performing a unique altruistic mission in society. This is accomplished through the provision of an impartial, indispensable educational service throughout his working life. He is primarily orientated to providing a service for students under his charge. He may, however, also see teaching as a means to the reconstruction of society.
3. The Core-organizational focuses on the professional organization (The Alberta Teachers' Association) as his primary reference for action. He sees it as the enforcer of standards and spokesman for the profession, but is likely to be more oriented to the organization rather than to the

⁹ E. Greenwood, "The Elements of Professionalization," Professionalization, H. M. Vollmer and D. L. Mills, editors, (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1966), p. 10.

¹⁰ N. P. Hrynyk and E. Miklos, "Professional Role Orientations of Administrators," The Canadian Administrator, VI (March, 1967), p. 21.

professional movement it serves, except where the two coincide.

4. The Colleague-professional stresses a strong identification with his fellow teachers and with belonging to the teacher occupational group.
5. The Student-autonomy oriented stresses the fiduciary nature of his relationship with students, the trust placed in him by society to achieve the goals of education and the autonomy he requires in applying his knowledge and skill to fulfill the demands of this trust.¹¹

It is interesting to note that Hrynyk found two diverse professional orientation profiles among the teachers he investigated.¹² One type indicated high orientations to service and student-autonomy. The individuals in this group were unmarried females with less than four years of teacher education and tended to be members of a teaching staff that had less than twenty-four teachers. The other type indicated high orientations to the dimension of knowledge, core-organization, and colleague-profession. The individuals in this group tended to be married males who were active participants in the A.T.A., had over four years of university education and more than thirteen years of teaching experience. In addition, they were usually high school teachers, or principals and vice-principals.

¹¹N. P. Hrynyk, "Correlates of Professional Role Orientation in Teaching" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1966), pp. 37-38.

¹²Ibid., p. 220.

II. RESEARCH DEPICTING INCOMPATIBILITIES BETWEEN PROFESSIONAL PRINCIPLES AND SELECTED BUREAUCRATIC PRINCIPLES

Hierarchical authority and procedural specification appear to be incompatible with professional principles. Bureaucratic principles relating to hierarchical authority suggest that authority is legitimated in terms of the position held, whereas professional principles suggest that authority belongs to the individual with superior competence regardless of his position. In the area of procedural specification, professionals as individuals wish to make their own decisions as to which is the correct procedure to be followed rather than having the organization decide what is procedurally correct.¹³

Robinson, from his extensive review of organizational theory pertaining to professional and bureaucratic principles, suggests that a conflict exists in the areas of hierarchical authority and procedural specification.¹⁴ The findings of his research indicated that schools with high staff professional scores tended to de-emphasize these two bureaucratic characteristics.¹⁵

The results of an extensive study by Fraser in which he

¹³R. G. Corwin, "Professional Persons in Public Organization," Educational Administration Quarterly, I (Autumn, 1965), p. 7.

¹⁴Robinson, op. cit., p. 32.

¹⁵Ibid., p. 203.

sampled the attitudes of three hundred and fifteen teachers in three countries also indicated that the majority of teachers favored a de-emphasis of bureaucratization within the school.¹⁶

Gouldner indicates that the goal attainment of the organization is affected when formal and detailed rules are introduced into a previously relaxed organizational setting.¹⁷ Furthermore, he found that directive control led to worker resentment and this resulted in even more emphasis on written rules and specific procedures.

Anderson asserts that the most critical dilemma posed for the organization is the reconciliation of the expectations of autonomy of teachers and the bureaucratic hierarchical demand for centralized control.¹⁸ According to Anderson, professionals come to the organization with expectations of independence and professional autonomy but find that they are expected to fulfil roles which include conforming to rules and operating procedures, and deference to hierarchical authority. He makes these assertions on the basis of a study that he completed in junior high schools. In relating

¹⁶G. Fraser, "Organizational Properties and Teachers Reactions." Unpublished Doctoral dissertation, University of Missouri, Columbia, 1967 (in Dissertation Abstracts--The Humanities and Social Sciences, May, 1968) 4715A.

¹⁷A. Gouldner, Patterns of Industrial Bureaucracy, (Glencoe, Illinois: The Free Press, 1954), p. 178.

¹⁸J. Anderson, "The Teacher: Bureaucrat or Professional?" Educational Administration Quarterly, III (Autumn, 1967), p. 292.

the results of his study, Anderson suggests findings very similar to Gouldner's findings in relation to authority conflict:

The author's study suggests that such constraints are intensified as teachers assume a more professional orientation towards students. The result for teachers appears to be a great deal of authority conflict, as evidenced by increased dissatisfaction with the exercise of administrative prerogative and heightened interest in militant professional associations and tactics as a means of protecting professional autonomy.¹⁹

MacKay suggests that there is a good reason to argue that the professional teacher is likely to find himself in conflict with certain characteristics of the school organization.²⁰ Relating the findings of a study designed to discover relationships between organizational structure and an indicator of teacher performance, MacKay states:

When the scores obtained from thirty-one Alberta schools on the dimensions of hierarchical authority were compared with the effectiveness rating of the schools, it was found that a high degree of hierarchical authority was associated with a low effectiveness rating of the schools.²¹

Both MacKay and Schmit found that teacher satisfaction with the organization is significantly reduced when authority relationships are of the bureaucratic type.^{22,23} Similarly, Eddy found

¹⁹Ibid., p. 297.

²⁰D. A. MacKay, "Should Schools Be Bureaucratic?" The Canadian Administrator, IV (November, 1965).

²¹Ibid., p. 7.

²²Ibid.

²³D. Schmit, "A Study of Teacher Satisfaction in Relation

that teachers who displayed a cosmopolitan role orientation signifying a higher commitment to the profession of teaching than to the school as an organization, were significantly less satisfied than teachers who displayed a local role orientation.²⁴

Teachers want to be autonomous within the classroom as well. Trask, in her study, found that supervision of classroom instruction as a form of hierarchical authority was contrary to expectations of autonomy that teachers wanted.²⁵ Jackson and Belford's investigation produced findings similar to Trask's study.²⁶ In their study of elementary and junior high teachers, Jackson and Belford found two main threats to a teacher's autonomy.²⁷ One was in regard to curriculum decisions and the other was related to administrators evaluating classroom procedures. House, as well, found that teachers wanted more influence in processes that were

to Professional Orientation and Perceived Hierarchical Authority in the School" (unpublished M.Ed. thesis, University of Alberta, Edmonton, 1968), p. 67.

²⁴W. Eddy, "The Relationship of Local-Cosmopolitan Role Orientation to Organizational Characteristics of Schools" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1968), p. 139.

²⁵A. Trask, "Principals, Teachers and Supervision: Dilemmas and Solutions," Administrator's Notebook, XIII, 4 (December, 1964).

²⁶P. Jackson and E. Belford, "Private Affairs in Public Settings: Observations on Teaching in Elementary Schools" School Review, LXXV (Summer, 1967).

²⁷Ibid., p. 178.

related to instruction.²⁸

Both Simpkins and Bridges investigated the decision-making process in schools.^{29,30} Bridges found that all teachers preferred principals who involved teachers in decision-making, but those teachers who had a high need for independence expressed less favorable attitudes towards their principals than those teachers with a low need for independence. Simpkins suggests that the evidence he collected illustrates that teachers desired more decision-making autonomy than they had at present.³¹

III. RESEARCH DEPICTING COMPATIBILITIES BETWEEN PROFESSIONAL PRINCIPLES AND SELECTED BUREAUCRATIC PRINCIPLES

Moeller and Charters investigated teacher's sense of power over school system affairs.³² The investigators hypothesized that

²⁸J. House, "An Analysis of Interpersonal Influence Relationships Within A School Organization" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1966), p. 249.

²⁹W. Simpkins, "The Distribution of Decision-Making Authority in the School" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1968).

³⁰E. Bridges, "Teacher Participation in Decision-Making," Administrator's Notebook, XII (May, 1964).

³¹Simpkins, op. cit., p. 207.

³²G. Moeller and W. Charters, "Relation of Bureaucratization Sense of Power Among Teachers," Administrative Science Quarterly, X (Autumn, 1967).

The sense of power that teachers' held would be lower in highly bureaucratic organizations as compared to less bureaucratic organizations. Contrary to their expectations, Moeller and Charters found that the teacher's sense of power was greater, not less, in highly bureaucratic schools.³³

A number of studies indicate that teachers generally want more bureaucratization than is presently found in schools. MacKay's sample of teachers indicated that hierarchical authority was moderately desirable, and procedural specification was desirable.³⁴ However, the degree of teacher professional orientation was not taken into consideration and consequently the implications of this finding may be somewhat limited.

Eddy found teachers with local orientation to be generally more satisfied with school organization than were cosmopolitan oriented teachers. In contrast to cosmopolitan oriented teachers, locals tended to perceive higher degrees of bureaucracy, had four years of teacher education, were teaching at a lower grade level, and were more satisfied with teaching as a career.³⁵

³³Ibid., p. 444.

³⁴D. A. MacKay, "An Empirical Study of Bureaucratic Dimensions and Their Relation to Other Characteristics of School Organizations" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1964), p. 168.

³⁵Eddy, op. cit. p. 138.

Schmit found no support for his hypothesis that the individual teacher's professionalism was in conflict with the hierarchical structure of the school. He indicates this finding in the following comment:

The failure of this study to provide statistical evidence that teachers possessing higher professional orientation are less satisfied in schools of high hierarchical authority that teachers of lower professional orientation suggests a conclusion rather restricted because of the limitations of this study.³⁶

Two studies outside the field of education indicate little evidence of conflict between professional and bureaucratic principles. Montagna investigated eight international public accounting firms located in New York City in an attempt to determine the relationship between professionalization and bureaucratization.³⁷ He found that a reconciliation between professionalization and bureaucratization can be achieved.³⁸ Goss studied doctors in a hierarchical structured setting in a Northeastern U.S.A. medical clinic with physicians occupying the positions of authority³⁹ She found very little evidence of conflict between considerations and organizational demands.⁴⁰

³⁶Schmit, op. cit., p. 48.

³⁷P. Montagna, "Professionalization and Bureaucratization in large Professional Organizations," American Journal of Sociology, LXXIV (September, 1968).

³⁸Ibid., p. 139.

³⁹M. E. Goss, "Influence and Authority Among Physicians in an Out-patient Clinic," American Sociological Review, XXVI (February, 1961).

⁴⁰Ibid., p. 49.

IV. SUMMARY OF RELATED LITERATURE AND RESEARCH

Literature and theory suggest that a conflict exists between professional principles and the bureaucratic principles of hierarchical authority and procedural specification. Research evidence as well indicates that these principles may be in conflict, although some of the evidence is contradictory. When the degree of professional orientation is taken into consideration, the emphasis on hierarchical authority and procedural specification in schools should lead to less satisfaction for teachers who have a high professional orientation.

V. HYPOTHESES

A multi-dimensional approach to teacher professional orientation may provide some useful insights into the relationship between the professional orientations of teachers, and their satisfaction with the bureaucratic dimensions of hierarchical authority, and procedural specification.

The following hypotheses were proposed to test the questions raised in the sub-problems:

Hypothesis 1

Teachers whose professional orientation is high will be more satisfied with low levels of hierarchical authority within the school than teachers whose professional orientation is low.

Hypothesis 2

Teachers whose professional orientation is high will be more satisfied with low levels of procedural specification within the school than teachers whose professional orientation is low.

CHAPTER III

RESEARCH METHODOLOGY

I. THE SAMPLE

Teachers and schools in this study were selected from four sub-urban school jurisdictions. The school jurisdictions included one Protestant school district, two Roman Catholic school districts, and one county.

Schools

A total of sixteen schools were included in the study. Each school could be classified as one of the following: elementary, elementary-junior high, junior-senior high, or senior high.

Teachers

Three hundred teachers who taught 50 per cent or more of the school day and were not principals or vice-principals comprised the sample for the study.

Analysis of Sample

Table I depicts the school systems, schools, grade levels, and the number of teachers that were included in the sample. There were 90 teachers employed in the two Roman Catholic school systems; 107 teachers employed in the Protestant system; and 103 teachers employed in the county.

TABLE I
SCHOOL SYSTEM, SCHOOLS, GRADE LEVELS AND NUMBER
OF TEACHERS INCLUDED IN THE SAMPLE

Number of School System	Number of School	Grade Levels	Number of Teachers (not Administrators)
1	1	1 - 6	11
	2	1 - 9	14
2	3	1 - 6	11
	4	1 - 4	8
	5	1 - 8	27
	6	9 - 12	19
3	7	1 - 4	13
	8	1 - 6	16
	9	6 - 9	29
	10	10 - 12	32
	11	1 - 4	13
4	12	1 - 3	21
	13	1 - 6	20
	14	4 - 9	30
	15	1 - 9	17
	16	10 - 12	19
Total			300

II. THE INSTRUMENTATION

Personal Data

Information requested from the teacher included sex, marital status, age, years of teaching experience, grade level division in which 50 per cent or more of the teacher's teaching time was spent, and the number of years of formal education beyond high school. This form is part of the questionnaire included in Appendix B.

Teacher Opinion Questionnaire

This is a fifty-item questionnaire pertaining to the professional orientation of teachers. Thirty of the items comprised the total of Hrynyk's Professional Role Orientation Scale (PROS).¹ All fifty items are forced-choice items having a Likert type of format with five response alternatives ranging from Strongly Agree to Strongly Disagree.

Hrynyk's PROS. Hrynyk spent considerable time developing his instrument and testing its validity and reliability. PROS is basically an extension of Corwin's scale which Corwin developed as part of a U.S. Office of Education project.² Hrynyk added two sub-scales to measure teachers' orientation to service, and orientation to core-organization. In addition, Corwin's two

¹N. P. Hrynyk, "Correlates of Professional Role Orientation in Teaching" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1966), pp. 245-248.

²R. G. Corwin, The Development of an Instrument for Examining Staff Conflicts in the Public Schools (Columbus: Ohio State University, 1964).

sub-scales on client orientation and decision-making, and authority were collapsed into a single sub-scale measuring student-autonomy.³

The original form of PROS contained five sub-scales or dimensions, each with six items that were selected after an item analysis conducted by Hrynyk. Validation for this scale was carried out by determining its power to discriminate between two groups of teachers considered by judges to be either "high" or "low" on professionalism.⁴ Split-half reliability procedures were utilized in determining the reliability of each of the sub-scales and the total scale.

Table II indicates the split-half reliability and estimated whole-test reliability of Hrynyk's PROS. Split-half correlation coefficients for the total instrument were .89 with a sample of forty subjects and .64 with a sample of 1162 teachers. Estimated whole-test reliability correlation coefficients were .94 and .78 for the instrument when administered to the respective samples. Split-half and estimated whole-test reliability correlations on the sub-scales varied for the two samples. The Knowledge sub-scale had a split-half correlation of .59 when administered to 40 subjects and .28 when the sample size was increased to 1162. Similarly, the whole-test reliability correlations generally decreased from the smaller to the larger sample. Split-half and

³Hrynyk, op. cit., pp. 82-84.

⁴Hrynyk, op. cit., p 100.

TABLE II
SPLIT-HALF RELIABILITY AND ESTIMATED WHOLE-TEST RELIABILITY

Scale	Split-half Correlations		Estimated Whole-test Reliability	
	N = 40	N = 1162	N = 40	N = 1162
Knowledge	.59	.28	.74	.44
Service	.54	.48	.70	.65
Core-Organization	.66	.69	.79	.81
Colleague-Professional	.75	.28	.80	.45
Student-Autonomy	.81	.40	.90	.78
Total PROS	.89	.64	.94	.78

Source: Hrynyk, op. cit., p. 103.

whole test reliability correlations for the Core-Organization sub-scale appeared to be least affected from one sample to the other.

According to Hrynyk, ". . . each sub-scale makes a significant, but unique, contribution to the total professional role orientation score."⁵

Items added to Hrynyk's PROS. A considerable amount of time was spent on constructing additional items that could be included with Hrynyk's items for each sub-scale. An attempt was made to devise items that would measure aspects of Hrynyk's dimension that his items did not. The definitions of each of his dimensions were carefully examined. The following is a statement of each of Hrynyk's dimensions of professional orientation that were basic to the construction and the gathering of new items.⁶

1. The Knowledge Dimension indicates that the professional's work is intellectual in nature and directed towards the unique solution of an individual's problems. The basis for knowledge is theory, and the required skills, based on the application of this knowledge, are acquired through a long period of training at a university. At the end of this training period there is usually some type of formal testing and licensing procedure. The professional has a continuing responsibility to contribute to the extension of the body of knowledge on which his practice is based, as well as to maintain his professional competence.

⁵Ibid., p. 106.

⁶Ibid., pp. 22-24.

2. The Service Dimension depicts the professional as having a unique mission in society. Furthermore, the profession does its best to provide an impartial, unique and indispensable public service. The service is thought to be essential to the survival of society, and is consequently pursued with a sense of mission. The professional commits himself to provide service whenever the need arises regardless of the circumstances. He is altruistic and considers his occupation as a life-time career. The professional views his service to society as being made either through changes wrought in society as a result of his service, or through the application of his practice to the individuals of society.

3. The Core-Organization Dimension illustrates that in the evolution of a "profession" it inevitably develops an "organization" which becomes the enforcer of standards of conduct, codes of ethics, and attempts to control licensing and admittance to the profession. The "organization" should not be confused with the "profession" as it provides a service to the profession by being its spokesman and providing opportunities for the growth of collegueship. Evaluation and ranking within the profession are in the hands of the organization thereby giving it power over its members. Although the organization contends that its primary purpose is to protect society from the unscrupulous who may attempt to practice the occupation, it actually may protect practitioners to an equal degree from societal interference. The organization is thought of as the core around which the profession advances.

4. The Colleague-Profession Dimension stresses the occupational unity of the members of the profession. A strong affiliation and identification with the profession leads to a concern as to who are one's colleagues. Common interests lead to feeling of "brotherhood", group loyalty, loyalty of one practitioner to another, social status and exclusiveness of the profession.

5. The Client-Autonomy Dimension stresses the fiduciary relationship of trust and faith between members of a profession and their clients. This relationship is thought of as unique and does not appear to be duplicated by other occupational groups. The professional's application of his unique skills, requiring individual judgement and discretion, places a responsibility on him that leads him to demand decision-making autonomy in matters related to the practice of his profession. This autonomy gives the professional power over the client who is in need of service and is unable to obtain this service elsewhere. Usually the client is unable to judge the competence of the professional's practice or decisions. Being unable to place a value on the professional's services, the client usually agrees to pay a fee or a fixed charge for it although the methods of payment to the professional may vary. A trusting society provides legal and social sanction for the professional's practice.

In the gathering and construction of additional items which would measure the above dimensions, a survey was made of all the questionnaires included in theses completed in Educational Administration. Items in questionnaires pertaining to teacher attitudes

and teacher professionalism were examined and classified according to their applicability to each of Hrynyk's dimensions. Further items were constructed from material in the Alberta Teachers' Association Policy Handbook. Other items were constructed and revised to measure aspects of each of the dimensions which did not appear to be included in any of the existing items.

From the large "pool" of items gathered for each of the sub-scales, twenty items were selected and further refined for inclusion with Hrynyk's PROS. Four items were added to each of the five sub-scales. The additional items for the Knowledge, Service Core-Organization, Colleague-Profession, and Student-Autonomy sub-scales are items 7-10, 17-20, 27-30, 37-40, and 47-50 respectively. These items are included in the Teacher Opinion Questionnaire in Appendix B.

The extended questionnaire provided scores for each of the sub-scales as well as a total score. Scores ranged from five for Strongly Agree to one for Strongly Disagree on each item providing a possible score of fifty for each sub-scale and a total possible score of 250. Negative items were reversed scored.

Organizational Inventory and Satisfaction Scale

The Organizational Inventory used in this study consists of two dimensions, Hierarchical Authority and Procedural Specification. The complete instrument consists of six dimensions and was originally developed by Hall for use in measuring the level of bureaucratization in commercial and government organizations. This instrument was

later revised and adapted for educational use by MacKay in 1964.⁷ The total School Organizational Inventory was revised and refined further by MacKay and Robinson in 1966.⁸

Validity and reliability. MacKay points out that the Spearman-Brown split-half method of determining reliability was applied by Hall to each of the six sub-scales. The Hierarchical Authority dimension has a reliability coefficient of .90, and the Procedural Specification dimension has a reliability coefficient of .83.⁹

In addition to the face validity that the instrument appeared to have, Hall selected a number of organizations from his sample which were judged to be at the extremes along one or more of the six dimensions. A two-tailed t test indicated a significant relationship at the .05 level between scale scores and the judges' estimation of the degree of bureaucratization.¹⁰

Scores ranged from five for Strongly Agree to one for Strongly Disagree for each item, with five indicating a high level of bureaucratization. The total possible score for the Hierarchical Authority dimension is sixty, whereas the total possible score for the Procedural Specification dimension is fifty.

⁷D. A. MacKay, "An Empirical Study of Bureaucratic Dimensions and Their Relation to Other Characteristics of School Organizations" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1964).

⁸Robinson, loc. cit.

⁹MacKay, op. cit., p. 47.

¹⁰Robinson, op. cit., p. 74.

The Satisfaction Scale, included with the Organizational Inventory, was designed for this study. The satisfaction items relating to hierarchical authority are the first twelve items, with the remaining ten satisfaction items referring to procedural specification. Combined, the twenty-two items provide a measure of teacher general satisfaction with these two organizational characteristics. The relationship between professional orientation and general satisfaction was investigated.

Global Satisfaction Scale

Four items, providing a total score of twenty, were adapted from studies by Schmit, Eddy, and McNamara for use in this study.^{11,12,13} The purpose of including this global scale of satisfaction was to see what relationship there was between professional orientation and global satisfaction with the broader aspects of teaching. This scale is also included in Appendix B.

¹¹D. A. Schmit, "A Study of Teacher Satisfaction in Relation to Professional Orientation and Perceived Hierarchical Authority in the School" (unpublished M.Ed. thesis, University of Alberta, Edmonton, 1968).

¹²W. P. Eddy, "The Relationship of Local-Cosmopolitan Role Orientation to Organizational Characteristics of Schools" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1968).

¹³V. D. McNamara, "A Descriptive-Analytic Study of Directive-Permissive Variation in the Leader Behavior of Elementary School Principals" (unpublished M.Ed. thesis, University of Alberta, Edmonton, 1967).

III. DATA COLLECTION

Permission was obtained from the superintendents and principals to distribute questionnaires to the teachers at schools. In each school a staff member was requested by either the researcher or principal to distribute and collect the questionnaires. Each of the sixteen schools was visited and the questionnaires were given to the staff member who was to distribute and collect the questionnaires from each eligible teacher. A letter¹⁴ outlining the purpose of the study and procedures for completing the questionnaire was included in each envelope. Arrangements were made to obtain the completed questionnaires within a week.

Follow-up visits to each school were made until as many questionnaires as possible were obtained.

A total of 245 usable questionnaires were received. Eleven questionnaires were incomplete and classified as non-usable. One questionnaire was received too late to be included in the analysis. The total percentage return of the questionnaires was 85.3 per cent. The percentage return of usable questionnaires was 81.6 per cent.

IV. TREATMENT OF DATA

Data Decks

Two IBM cards were prepared for each of the 245 teachers. The first eleven variables which included card number, teacher identification number, school identification number, number of

¹⁴See Appendix B.

full-time teachers, school size, school type, sex, marital status, age, teaching experience, and professional training were placed on both cards for each individual. The first card for each teacher had the teacher's score for each item of the 50 item extended PROS. The second card had the teacher's score for each item of the Organizational Inventory and Satisfaction Scale as well as the teacher's score on each item of the Global Satisfaction Scale.

A new data deck was prepared with one card for each teacher. The new card contained the first eleven variables listed above plus totals on each ten item sub-scales as well as a grand total for all fifty items. Totals were included on each of Hrynyk's original six item sub-scales as well as a total for the thirty-item PROS. Additional items to each sub-scale were also totalled as well as a grand total for the twenty added items. Other totals on the items of hierarchical authority, satisfaction specification, satisfaction with hierarchical authority and procedural specification, and global satisfaction were also included.

Division of Teachers into Groups by Professional Orientation

The procedure outlined by Ferguson¹⁵ was used to classify teachers into three categories. This procedure involves calculating the thirty-third and sixty-seventh percentile points. Total scores

¹⁵G. A. Ferguson, Statistical Analysis in Psychology and Education (New York: McGraw-Hill Book Company, 1966), pp. 259-262.

that the 245 teachers received on Hrynyk's PROS were used to place teachers in the following three groups:

1. Teachers Low in Professional Orientation. These teachers scored in the bottom one-third of PROS. They had a score less than or equal to 96 on Hrynyk's PROS.
2. Teachers Medium in Professional Orientation. These teachers had a score greater than 96 but less than 106 on Hrynyk's PROS.
3. Teachers High in Professional Orientation. These teachers had a score equal to and greater than 106 on Hrynyk's PROS. They scored in the upper one-third of PROS.

This method of classifying teachers was used in the analysis relating professional orientation to general satisfaction, and global satisfaction.

Division of Teachers into Groups by Degree of Satisfaction with Level of Hierarchical Authority

The scores that teachers received on the basis of their total expressed satisfaction with hierarchical authority were plotted. The median score was then calculated. It was found that 127 teachers had a total score of 47 or below, and 118 teachers had a total score of 48 or above. Scores below the median were classified as indicating low satisfaction, whereas scores above the median were classified as indicating high satisfaction with hierarchical authority.

The same procedure was followed for each total score that a teacher received in relation to items pertaining to hierarchical authority. An examination of these scores revealed that 121

teachers received a total score of 27 or below, and 124 teachers received a total score of 28 or above. Scores above the median represented scores which were classified as indicating high hierarchical authority. Scores below the median were classified as representing low hierarchical authority.

Each teacher's total score on satisfaction with hierarchical authority, and total score on the hierarchical authority items were then examined, and teachers were assigned to one of the four following categories:

Group 1: High Satisfaction with Low Hierarchical Authority

Group 2: High Satisfaction with High Hierarchical Authority

Group 3: Low Satisfaction with Low Hierarchical Authority

Group 4: Low Satisfaction with High Hierarchical Authority

There were 92 teachers in group 1; 26 teachers in group 2; 30 teachers in group 3; and 97 teachers in group 4. The total sample consisted of 245 teachers.

Table III provides a summary of the preceding data.

Division of Teachers into Groups by Degree of Satisfaction with Level of Procedural Specification

The same procedure was followed for determining a teacher's degree of satisfaction with level of procedural specification as was done for a teacher's degree of satisfaction with level of hierarchical authority.¹⁶

¹⁶Supra, p. 38.

TABLE III

CLASSIFICATION OF TEACHERS BY THEIR DEGREE OF SATISFACTION
WITH DIFFERING LEVELS OF HIERARCHICAL AUTHORITY, AND
DIFFERING LEVELS OF PROCEDURAL SPECIFICATION

Group	Degree of Satisfaction	Level of H.A. and P.S.	Number in Each Group and Percentage of Total Sample					
			Classification by Degree of Satisfaction with Hierarchical Authority			Classification by Degree of Satisfaction with Procedural Specification		
			N		%	N		%
1	High	Low	92		38%	85		35%
2	High	High	26		11%	45		18%
3	Low	Low	30		12%	31		12%
4	Low	High	97		39%	84		35%
Total			245		100%	245		100%

It was found that 115 teachers had a total score of 38 or below on satisfaction with procedural specification, and 130 teachers had a score of 39 or above. Again, total scores above the median were classified as indicating high satisfaction.

From examination of the total scores that teachers received in relation to items pertaining to procedural specification, it was found that 116 teachers received a total score of 24 or below, and 129 teachers received a total score of 25 or above.

Once this was done, each teacher's total score on satisfaction with procedural specification, and total score on the procedural specification items were then examined, and teachers were assigned to one of the four following categories:

Group 1: High Satisfaction with Low Procedural Specification

Group 2: High Satisfaction with High Procedural Specification

Group 3: Low Satisfaction with Low Procedural Specification

Group 4: Low Satisfaction with High Procedural Specification

There were 85 teachers in group 1; 45 teachers in group 2; 31 teachers in group 3; and 84 teachers in group 4. As was previously indicated, there were 245 teachers in the total sample.

Table III provides a summary of the preceding data.

Scores Obtained by Teachers on Sections of the Questionnaire

Table IV indicates the means and standard deviations of Hrynyk's PROS and the extended PROS.

The mean extended sub-scale scores varied from 30.58 for the Service

TABLE IV
 MEANS AND STANDARD DEVIATIONS FOR SCORES ON
 HRYNYK'S AND THE EXTENDED PROFESSIONAL
 ROLE ORIENTATION SCALE
 (N=245)

Variable	Hrynyk's PROS Mean	Extended PROS Mean	Hrynyk's PROS s.d.	Extended PROS s.d.
Knowledge	19.75	35.72	2.96	4.19
Service	17.02	30.58	3.57	4.83
Core-Organization	19.45	34.13	4.48	6.13
Colleague-Profession	21.65	38.71	2.52	3.22
Student-Autonomy	23.08	37.89	3.01	4.30
Total Score	100.96	177.04	10.39	14.81

sub-scale to 38.71 for the Colleague-Profession sub-scale. The mean total for the extended PROS was 177.04.

The standard deviations ranged from 3.22 for the extended Colleague-Profession sub-scale to 4.83 for the Service sub-scale. On the total scores the standard deviation for the extended PROS was 14.81.

The means of the scores on Hrynyk's sub-scales ranged from 17.02 for the Service sub-scale to 23.08 for the Student-Autonomy sub-scale. The standard deviations varied from 2.52 for the Colleague-Profession sub-scale to 4.48 for the Core-Organization sub-scale. Hrynyk's total PROS had a mean score of 100.96 and a standard deviation of 10.39.

The mean general satisfaction score for the 245 teachers in the sample was 83.45. The standard deviation was 14.27.

The mean global satisfaction score was 15.68 with a standard deviation of 2.62.

Statistical Treatment of Data

Four computer programs were used in the analysis of the data. These included FACT04, DEST06, ANOV10, and ANOV15, as provided by the Division of Educational Research at the University of Alberta.

Factor Analysis. As was indicated previously, a major part of this study was concerned with adding suitable items to measure each of Hrynyk's dimensions.¹⁷ The responses to the items on Hrynyk's PROS as well as to the items on the extended PROS were factor analyzed for purposes of comparison.

Each of the fifty items had a Likert type of format with five response alternatives ranging from Strongly Agree to Strongly Disagree. For the purposes of the factor analysis, cardinal numbers were assigned to the response alternatives of the items with negative items reversed scored. Product moment correlations were then computed between the items and intercorrelation matrices were obtained.

Factor analysis of the extended PROS and Hrynyk's PROS was accomplished by subjecting the responses on the items to a principal-axis factor analysis with an orthogonal (Varimax) rotation.¹⁸

Descriptive statistics. Means, standard deviations, correlations, and ranges were calculated for selected variables. Some of this data has previously been presented in this Chapter.¹⁹

t tests with tests on variances. t tests were calculated between the means that both high and low professionally oriented

¹⁷Supra, pp. 30-33.

¹⁸H. H. Harman, Modern Factor Analysis (Chicago and London: the University of Chicago Press, 1967), pp. 304-313.

¹⁹Supra, pp. 41-44.

teachers received in relation to general satisfaction with hierarchical authority and procedural specification, and global satisfaction with the broader aspects of teaching.

One-way analysis of variance. This statistical technique formed the major basis of testing the hypotheses.

Ferguson outlines some of the assumptions underlying the analysis of variance.²⁰ He indicates that one assumption is that the distributions of the variables in the populations from which the samples are drawn are normal. Secondly, he suggests that a further assumption underlying the analysis of variance is that the variances in the populations from which the samples are drawn are equal. A third assumption is that various factors on the total variation are additive as distinct from multiplicative.

Ferguson suggests, one advantage of analysis of variance is that reasonable departures from homogeneity of variance and normality may occur without seriously affecting the findings. The Welch test was used when general satisfaction scores indicated a departure from homogeneity of variance.

V. SUMMARY

This chapter described the sample selected for the study, the instruments, data collection, and statistical treatments employed for testing the hypotheses and conducting factor analysis.

²⁰Ferguson, op. cit., pp. 294-295.

CHAPTER IV

AN ANALYSIS OF THE EXTENDED PROFESSIONAL ROLE ORIENTATION SCALE

This chapter contains results of the analysis of data relating to Hrynyk's Professional Role Orientation Scale (PROS) and the items added to each of Hrynyk's five sub-scales. The extended PROS is compared to Hrynyk's PROS on the basis of factor analysis as the major statistical procedure.

I. FACTOR ANALYSIS OF THE EXTENDED PROFESSIONAL ROLE ORIENTATION SCALE

The factoring of the extended PROS followed computer-programmed principal axis analysis, and factor matrices were rotated orthogonally.

On the initial rotation seventeen eigenvalues greater than one were found. This suggested that the extended PROS had seventeen significant factors and consequently seventeen sub-scales would be appropriate. Upon examination of each of the factors it was found that ten factors had three items or fewer, and only two factors had five or more items. The deficiency of items for each sub-scale suggested fewer factors so that a meaningful total scale with comprehensible sub-scales would be the result.

On the ten factor rotation, six factors had fewer than five items which contributed to each factor. Previous research conducted by Hrynyk and Scharf suggested five meaningful sub-scales so the instrument was analyzed on that basis.^{1,2}

The factor pattern that would be "expected" from the descriptions of the dimensions of professional orientation presented in Chapter III is outlined by the boxes in each table illustrating the results of factor analysis.

Table V presents the resulting factor pattern for a five factor solution. No sub-scale had fewer than six items with a primary loading in any one factor.

As is the case in all the tables presenting the results of factor analysis on the extended PROS, the sub-scales corresponding to each set of ten items from the top of the table to the bottom are Knowledge, Service, Core-Organization, Colleague-Profession, and Student-Autonomy, respectively.

Table V indicates that the Knowledge and Colleague-Profession sub-scales each had three items with their primary

¹N. P. Hrynyk, "Correlates of Professional Role Orientation in Teaching" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1966).

²M. Scharf, "An Investigation of the Relationship Between the Professional Role Orientation and Social Structure of Teacher Groups" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1967).

TABLE V

PRINCIPAL-AXIS FACTOR SOLUTION WITH A VARIMAX ROTATION FOR
THE EXTENDED PROFESSIONAL ROLE ORIENTATION SCALE

Item	Communalities	Factor Loadings of Items on Factors				
		1	2	3	4	5
1	0.245	0.108	0.225	-0.233	0.061	0.353*
2	0.231	-0.055	0.469*	0.027	-0.084	0.009
3	0.340	0.087	0.089	0.182	0.078	0.534*
4	0.142	0.143	0.093	0.013	0.206	0.266*
5	0.138	0.081	0.277*	0.025	0.200	0.120
6	0.417	0.195	0.372*	-0.350	0.334	0.082
7	0.443	0.243	0.194	0.081	0.552*	0.188
8	0.399	0.199	0.229	-0.272	0.474*	-0.091
9	0.231	-0.077	0.006	0.048	0.471*	-0.038
10	0.312	0.252	0.435*	-0.240	0.035	-0.019
11	0.169	-0.047	-0.004	0.286*	0.141	-0.255
12	0.431	0.357	0.498*	-0.084	-0.092	-0.201
13	0.399	0.265	0.558*	-0.004	0.041	-0.124
14	0.425	0.230	0.600*	0.038	-0.006	0.105
15	0.321	0.267	0.433*	0.142	-0.191	0.070
16	0.229	-0.190	0.199	0.337*	0.177	0.093
17	0.241	0.076	0.457*	0.026	0.125	0.098
18	0.302	-0.404*	0.298	0.215	0.066	0.076
19	0.238	-0.256	0.400*	0.004	-0.008	0.112
20	0.360	0.053	0.570*	0.161	0.075	-0.020
21	0.496	0.597*	0.174	-0.030	-0.075	0.319
22	0.375	0.545*	0.181	-0.083	-0.131	-0.143
23	0.541	0.699*	0.137	-0.135	0.008	0.122
24	0.436	0.506*	0.147	-0.023	-0.238	0.318
25	0.512	0.660*	0.159	-0.146	-0.072	0.156
26	0.495	0.693*	0.111	0.026	0.038	0.011
27	0.564	0.557*	-0.211	0.405	0.196	0.075
28	0.594	0.652*	-0.098	0.328	0.222	-0.044
29	0.284	0.299	0.002	0.284	0.337*	-0.030
30	0.469	0.519*	0.016	0.274	0.359	-0.053
31	0.217	0.144	0.297*	0.199	0.219	-0.145
32	0.058	0.006	-0.034	-0.047	0.160	0.170*
33	0.397	0.389*	0.321	-0.010	0.328	0.187
34	0.362	-0.080	-0.117	0.548*	0.202	0.021
35	0.401	0.260	0.185	0.011	0.263	0.479*
36	0.081	0.069	-0.080	0.236*	-0.116	-0.017
37	0.305	0.307*	0.235	-0.242	0.304	0.063
38	0.127	0.103	0.265*	-0.056	0.200	-0.055
39	0.363	0.123	0.120	0.022	0.190	-0.545*
40	0.104	-0.147	-0.035	0.029	0.280*	0.042

TABLE V (continued)

Item	Communalities	Factor Loadings of Items on Factors				
		1	2	3	4	5
41	0.238	-0.099	0.459*	0.042	0.056	0.113
42	0.411	-0.140	0.426*	0.380	-0.002	0.256
43	0.151	0.035	0.076	0.327*	-0.037	0.188
44	0.330	0.026	0.425*	0.383	0.042	-0.000
45	0.445	0.025	0.231	0.625*	0.005	0.012
46	0.322	-0.135	-0.034	0.133	0.533*	-0.014
47	0.232	0.027	0.201	0.375*	0.102	-0.200
48	0.258	-0.098	-0.112	0.447*	0.003	0.191
49	0.378	0.004	0.383	0.446*	0.007	-0.180
50	0.344	0.062	0.166	0.519*	-0.018	-0.208

*Indicates the primary factor loading for that item.

Note: Vertical lines enclose expected primary factor loading regions.

factor loadings in the expected factor.

The ten items intended to measure the Knowledge sub-scale were found to have their primary loadings in three factors. A number of intended Knowledge items were found to be strongly associated with the expected Service and Colleague-Profession sub-scales.

The ten items selected for the Colleague-Profession sub-scale were found scattered through all five factors. Items which could be classified as independently measuring the Colleague-Profession dimension were extremely difficult to identify.

The items intended to measure the Service sub-scale were somewhat easier to identify. Seven of the intended items loaded primarily in the expected factor. Items 11, and 16 loaded with items in the expected Student-Autonomy factor. Item 18 had its primary loading, although it was negative, in the expected Core-Organization factor.

Of the ten items anticipated as measuring the Student-Autonomy dimension, six had their primary loadings in the expected factor. Items 41, 42, and 44 had their primary loadings with items in the expected Service factor. Item 46 loaded primarily with items on the expected Knowledge factor.

The Core-Organization sub-scale had nine of its items with primary loadings in the expected factor. Item 29 loaded on the expected Knowledge factor.

Table V also presents the factor loadings of the four items added to each sub-scale. The items added to each sub-scale are the last four items in each group of ten items. For example, the items added to the Knowledge sub-scale are items 7, 8, 9, and 10. The first six items in each sub-scale are original items from Hrynyk's PROS.

The items added to the Knowledge sub-scale generally loaded in a factor distinct from Hrynyk's original items which loaded in two factors. Item 10, however, loaded with three of Hrynyk's items on the expected Service factor.

Three of the items added to the Service sub-scale had their primary loadings in the expected Service factor along with four of Hrynyk's six items. Item 18 had a negative primary loading on the expected Core-Organization factor. Hrynyk's two other items, items 11 and 16, loaded with items on the expected Student-Autonomy factor.

Similarly, only one of the four items added to the Core-Organization sub-scale loaded in an unexpected factor. Item 29 had its secondary loading on the expected Knowledge factor. Its secondary loading was with the other items on the Core-Organization factor.

The four items added to the Colleague-Profession sub-scale were as scattered as were Hrynyk's original items. Each of the four items loaded independently on four separate factors. Items 37, 38, and 39 had their secondary loadings with item 40.

All four of the items added to the Student-Autonomy sub-scale had their primary loadings in the expected Student-Autonomy

sub-scale. Two of the items from the original PROS loaded with these items.

Table VI displays the fifty items for the extended PROS that had factor loadings of .30 and greater, and items with a marginal loading between .20 and .29. The symbol ++ or -- indicates a factor loading of .30 or greater, while the single + or - represents marginal loadings between .20 and .29. Vacant cells represent negligible loadings of less than .20. This format for displaying results of factor analysis follows a similar procedure introduced by Wehling and Charters for a meaningful presentation of results.³ They used the same factor loadings for presenting their results.

The factor pattern that would be expected from the descriptions of the dimensions are outlined by the boxes in Table VI. They enclose cells in which the factor loadings are expected to be large.

As can be detected from the table, several anomalies occurred in the pattern such as vacant cells within the boxes or large loadings outside the boxed cells. For instance, the Student-Autonomy sub-scale appeared to be bi-polar rather than uni-polar. Some of these items apparently related to both autonomy of teachers and to autonomy in relation to decision-making about students. Perhaps this is one possible explanation for the finding that a number of

³L. Wehling and W. Charters, "Dimensions of Teacher Beliefs About the Teaching Process," American Educational Research Journal, VI (January, 1969), pp. 15-18.

TABLE VI

FACTOR LOADINGS ON ITEMS FOR THE EXTENDED
PROFESSIONAL ROLE ORIENTATION SCALE

Item	1	2	3	4	5
1		+	-		++
2		++			
3					++
4				+	+
5		+		+	
6		++	-	++	
7	+			++	
8		+	-	++	
9				++	
10	+	++	-		
11			+		-
12	++	++			-
13	+	++			
14	+	++			
15	+	++			
16			++		
17		++			
18	-	+	+		
19	-	++			
20		++			
21	++				++
22	++				
23	++				
24	++			-	++
25	++				
26	++				
27	++	-	++		
28	++			+	
29	+			++	
30	++			++	
31		+		+	
32					
33	++	++		++	
34			++	+	
35	+			+	++
36			+		
37	++	+	-	++	
38		+		+	
39					--
40				+	

TABLE VI (continued)

Item	1	2	3	4	5
41		++			
42		++	++		+
43			++		
44		++	++		
45		+	++		
46				++	
47		+	++		-
48			++		
49		++	++		
50			++		-

++ or -- indicates a factor loading of .30 or greater.

+ or - indicates a marginal loading between .20 and .29.

Note: Vacant cells represent negligible loadings.

items from the Student-Autonomy sub-scale loaded on the same factor as items that related to service to students. Several Knowledge items related to Service items as well. It would appear that teachers interpreted some of the Knowledge items in terms of knowledge about subject-matter so it can be effectively related to the needs of students.

Furthermore, a number of the Colleague-Profession and Knowledge items appeared to be related. Perhaps a professional's valuing of colleague opinion may be related to a colleague's knowledge about educational matters.

II. FACTOR ANALYSIS OF HRYNYK'S PROFESSIONAL ROLE-ORIENTATION SCALE AND ITS RELATION TO THE FACTOR ANALYSIS OF THE EXTENDED PROFESSIONAL ROLE ORIENTATION SCALE

Tables VII and VIII present a factor analysis of the responses of 245 teachers to Hrynyk's thirty-item PROS without the items added to each sub-scale. The analysis was conducted for comparison with the factor analysis of the extended PROS. An attempt was made to determine if the items added to each sub-scale had any effect on the spread of items over the various factors.

The sub-scales from the top of Tables VII and VIII to the bottom, corresponding to each set of six items, are Knowledge, Service, Core-Organization, Colleague-Profession, and Student-Autonomy, respectively.

A close inspection of the items in the Knowledge sub-scale reveals that items 3,4,5, and 6 loaded heavily together. When the four

TABLE VII
FACTOR LOADINGS ON ITEMS FOR HRYNYK'S PROFESSIONAL
ROLE ORIENTATION SCALE

Item	Communalities	Factor Loadings of Items on Factors				
		1	2	3	4	5
1	0.359	0.211	0.017	0.302	0.152	-0.447*
2	0.274	0.015	0.215	0.447*	-0.031	-0.163
3	0.213	0.086	-0.032	0.092	0.431*	0.101
4	0.248	0.066	0.049	-0.069	0.474*	0.111
5	0.341	-0.059	0.248	-0.026	0.523*	-0.042
6	0.446	0.152	0.260	-0.121	0.508*	-0.289
7	0.160	-0.091	0.095	-0.018	-0.073	0.370*
8	0.704	0.230	0.806*	0.005	-0.033	-0.019
9	0.645	0.123	0.775*	0.035	0.153	0.071
10	0.573	0.121	0.642*	0.249	0.292	-0.002
11	0.340	0.217	0.456*	0.288	0.040	0.025
12	0.286	-0.266	0.044	0.301*	0.272	0.221
13	0.574	0.708*	0.015	0.126	0.232	-0.050
14	0.423	0.601*	0.218	-0.062	-0.055	0.087
15	0.593	0.734*	0.099	0.014	0.156	-0.138
16	0.732	0.595*	0.064	0.066	0.089	-0.035
17	0.551	0.698*	0.169	-0.028	0.151	-0.110
18	0.490	0.685*	0.035	0.106	0.090	0.024
19	0.181	0.067	0.122	0.333*	0.183	0.131
20	0.213	0.038	-0.257	0.049	0.376*	-0.036
21	0.420	0.360	0.157	0.122	0.500*	0.032
22	0.424	-0.153	-0.195	0.156	0.236	0.531*
23	0.348	0.235	0.085	0.111	0.517*	-0.079
24	0.370	0.179	-0.113	-0.184	-0.008	0.540*
25	0.373	0.072	0.060	0.595*	-0.005	-0.104
26	0.514	-0.065	0.060	0.704*	0.076	0.066
27	0.217	0.058	-0.082	0.441*	-0.061	0.092
28	0.435	0.085	0.206	0.360	0.157	0.481*
29	0.549	-0.006	0.118	0.407	0.090	0.601*
30	0.141	-0.236*	-0.088	0.196	0.198	-0.020

*Indicates the primary factor loading for that item

Note: Vertical lines enclose expected primary factor loading regions.

TABLE VIII
FACTOR LOADINGS ON ITEMS FOR HRYNYK'S PROFESSIONAL
ROLE ORIENTATION SCALE

Item	1	2	3	4	5
1	+		++		--
2		+	++		
3				++	
4				++	
5		+		++	
6		+		++	
7					++
8	+	++			
9		++			
10		++	+	+	
11	+	++	+		
12	-		++	+	+
13	++			+	
14	++	+			
15	++				
16	++				
17	++				
18	++				
19			++		
20		-		++	
21	++			++	
22				+	++
23	+			++	
24					++
25			++		
26			++		
27			++		
28		+	++		++
29			++		++
30	-				

++ or -- indicates a factor loading of .30 or greater.

+ or - indicates a marginal loading between .20 and .29.

Note: Vacant cells represent negligible loadings.

items added to the Knowledge sub-scale were placed with them, as shown in Tables V and VI, this was no longer the case. There was also a tendency for fewer Knowledge items to load on the expected Service factor when only Hrynyk's items were used.

An inspection of Table VIII reveals that four of Hrynyk's six Service items loaded heavily in one factor. When the items added to the Service sub-scale included with them as shown in Tables V and VI Hrynyk's items were not dispersed into other factors. Two of Hrynyk's items, items 11 and 16 on the extended PROS, did not load with the rest of his Service items in either situation. There was a greater tendency for Hrynyk's service items to load on the Core-Organization sub-scale when the four items added to the Service sub-scale were placed with them.

Tables VII and VIII reveal that all of Hrynyk's Core-Organization items loaded heavily on one factor and were essentially uni-polar when used without the additional items. Tables V and VI indicate that, with the exception of item 29, the items added loaded heavily with the original PROS items on this sub-scale. When the four items were added to Hrynyk's items, there was a slight tendency for Core-Organization items to have secondary loadings in other factors.

Items comprising the Colleague-Profession sub-scale were as dispersed on the original PROS, as indicated by Tables VII and VIII, as with the items added, as shown in Tables V and VI.

Hrynyk's items on the Student-Autonomy sub-scale in Tables VII and VIII tended to have loadings on three factors with predominant

loadings in the expected factor. Once the items added to the Student-Autonomy sub-scale were placed with Hrynyk's items, as indicated in Tables VI and VII, there was a marked increase in the tendency for items to load in the expected Service factor. Item 30 on Hrynyk's original scale, which is the same as item 46 on the extended PROS, did not relate with other Student-Autonomy items in either analysis.

Scharf's factor analysis of Hrynyk's PROS revealed similar findings in regard to items on the sub-scales.⁴ Tables IX and X display the results of his analysis. Table IX presents the primary loadings of items within factors whereas Table X displays the factor loadings of .30 or greater by ++ or --, and marginal loadings between .20 and .29 by a single + or -. Vacant cells represent negligible loadings.

A close examination of Tables V and VII reveals that the Core-Organization, Service, and Student-Autonomy sub-scales were very similar in both analyses. On the Service sub-scale the only items that factor differently are items 7 and 12. All items on the Core-Organization sub-scale factor as expected. A comparison of the items on the Student-Autonomy sub-scale reveals that items 28 and 29 have shifted their primary and secondary loadings. In Scharf's analysis item 30 loaded heavily on two factors whereas in the present analysis of Hrynyk's items it had only a negative marginal loading on one factor.

The Knowledge and the Colleague-Profession sub-scales were

⁴Scharf, op. cit., pp. 132-139.

TABLE IX

PRINCIPAL-AXIS FACTOR SOLUTION WITH A VARIMAX ROTATION FOR HRYNYK'S
PROFESSIONAL ROLE ORIENTATION SCALE CONDUCTED BY SCHARF
(FIVE FACTOR FIELD)

Items	Communalities	1	2	3	4	5
1	0.197	0.071	0.031	0.110	0.023	0.422*
2	0.450	0.084	-0.020	0.149	-0.397	0.513*
3	0.240	0.057	-0.127	-0.022	0.469*	0.019
4	0.209	0.151	-0.038	-0.074	0.424*	-0.005
5	0.450	0.027	0.158	-0.093	-0.059	0.642*
6	0.383	0.191	0.434*	-0.141	0.231	0.292
7	0.279	-0.275	0.392*	-0.109	0.180	0.068
8	0.644	0.198	0.744*	0.180	-0.087	-0.103
9	0.711	0.115	0.800*	0.148	-0.137	-0.134
10	0.428	0.194	0.601*	-0.018	0.017	0.170
11	0.261	0.247	0.364*	-0.026	0.052	0.253
12	0.209	-0.067	0.025	0.253	0.064	0.368*
13	0.539	0.678*	0.236	0.016	0.054	0.145
14	0.421	0.541*	0.167	-0.256	0.182	-0.027
15	0.539	0.678*	0.173	-0.020	0.219	-0.044
16	0.317	0.480*	0.016	0.140	-0.170	0.196
17	0.554	0.727*	0.044	0.090	0.049	0.116
18	0.547	0.693*	0.026	0.236	0.104	-0.013
19	0.305	0.180	0.137	0.451*	0.215	-0.066
20	0.189	0.043	0.022	-0.100	0.256	0.333*
21	0.356	0.110	0.324	0.163	0.414*	0.203
22	0.366	-0.149	0.089	0.379	0.437*	-0.021
23	0.445	0.190	0.257	0.067	0.480*	0.327
24	0.061	0.058	-0.105	0.034	0.128	0.171*
25	0.255	-0.035	0.217	0.410*	-0.193	0.035
26	0.312	-0.066	0.094	0.540*	-0.082	-0.011
27	0.255	0.132	-0.048	0.469*	-0.035	0.117
28	0.383	0.111	-0.111	0.557*	0.088	0.202
29	0.230	0.035	-0.078	0.471*	0.029	0.006
30	0.402	-0.094	0.160	0.430	0.449*	-0.056

*Indicates the primary factor loading for that item.

Note: Vertical lines enclose expected primary factor loading regions.

TABLE X

PRINCIPAL-AXIS FACTOR SOLUTION WITH A VARIMAX ROTATION FOR HRYNYK'S
PROFESSIONAL ROLE ORIENTATION SCALE CONDUCTED BY SCHARF
(FIVE FACTOR FIELD)

Items	Factor Loadings of Items on Factors				
	1	2	3	4	5
1					
2					++
3				++	++
4				++	
5					++
6		++		+	+
7	-	++			
8		++			
9		++			
10		++			
11	+	++			+
12			+		++
13	++	+			
14	++		-		
15	++			+	
16	++				
17	++				
18	++		+		
19			++	++	
20				++	++
21		++		++	+
22			++	++	
23		+		++	++
24					
25		+	++		
26			++		
27			++		
28			++		+
29			++		
30			++	++	

++ or -- indicates a factor loading of .30 or greater.

+ or - indicates a marginal loading between .20 and .29.

Note: Vacant cells represent negligible loadings.

similar in both analyses to the extent that they appeared to be very unstable and lacked independence. Scharf's analysis indicated the reverse order for factors representing the Knowledge and Colleague-Profession sub-scales. Because of the affinity of items between the two sub-scales and lack of any concrete factor pattern for either sub-scale, it was difficult to decide which factor really represented the Knowledge items, and which factor represented the Colleague-Profession items.

III. CORRELATION COEFFICIENTS BETWEEN TOTAL SCORES OF ITEMS
ADDED TO EACH SUB-SCALE AND TOTAL SCORES ON EACH
OF HRYNYK'S SUB-SCALES

The Pearson correlation coefficients between the total scores on the items in each of Hrynyk's sub-scales and the total scores of each group of items added to each sub-scale are illustrated in Table XI. The calculation of significance for correlation coefficients followed the procedure outlined by Ferguson.⁵ The two-tailed test was used in calculating the level of significance.

A correlation of .616, which is significant at the .01 level was found between the total responses to the twenty additional items and the total of Hrynyk's thirty item PROS.

The total score of the items added to the Knowledge sub-scales correlated significantly at the .01 level with each total sub-scale

⁵G. A. Ferguson, Statistical Analysis in Psychology and Education (New York: McGraw-Hill Book Company, 1966), pp. 186-187.

TABLE XI

CORRELATION COEFFICIENTS BETWEEN SCORES ON HRYNYK'S PROFESSIONAL ROLE
ORIENTATION SCALE AND SCORES ON ITEMS ADDED TO EACH SUB-SCALE
(N=245)

Items Added	Hrynyk's Dimensions					PROS
	Knowledge	Service	Core-Organization	Colleague-Profession	Student-Autonomy	
Knowledge	.413**	.270**	.266**	.231**	.191**	.437**
Service	.271**	.334**	-.006	.106	.368**	.322**
Core-Organization	.124*	.221**	.416**	.276**	.155*	.402**
Colleague-Profession	.143*	.193**	.187**	.140*	.132*	.260**
Student-Autonomy	.077	.247**	-.043	.189**	.416**	.254**
Total of Additional Items	.366**	.461**	.315**	.350**	.459**	.616**

*Significant at .05 level; $r_{.05} = .123$; two-tailed test.

**Significant at .01 level; $r_{.01} = .161$; two-tailed test.

score of Hrynyk's PROS. The total score of the items added to the Knowledge sub-scale correlated least with Hrynyk's Student-Autonomy sub-scale, and most with Hrynyk's Knowledge sub-scale as indicated by the size of the correlation coefficients.

The total score of the items added to the Service sub-scale correlated significantly with the total score on each of Hrynyk's Student-Autonomy, Service, and Knowledge sub-scales. There appeared to be as great a tendency for those items added to the Service sub-scale to measure what Hrynyk's Student-Autonomy sub-scale measured, as there was for the items added to measure what Hrynyk's Service sub-scale measured.

The total score of the items added to the Core-Organization sub-scale correlated significantly and the highest with Hrynyk's Core-Organization sub-scale. The greatest secondary relationship indicated by the size of correlation coefficients was with the total score of items in Hrynyk's Colleague-Profession sub-scale.

The total score of items added to the Colleague-Profession sub-scale correlated significantly with each total score of Hrynyk's sub-scales. As indicated by the significance of the correlation coefficients, the additional items related more to Hrynyk's Service and Core-Organization sub-scales than to his Colleague-Profession sub-scale.

The total score of items added to the Student-Autonomy sub-scale correlated highest with Hrynyk's Student-Autonomy sub-scale.

Other significant relationships were with Hrynyk's Service and Colleague-Profession sub-scales.

In summary, the total scores of items added to the Knowledge, Core-Organization and Student-Autonomy sub-scales correlated the highest with the total scores on Hrynyk's respective sub-scales.

IV. CORRELATION COEFFICIENTS BETWEEN TOTAL SCORES OF ITEMS ADDED TO EACH SUB-SCALE

Table XII illustrates the relationship between the total scores of items added to measure each of Hrynyk's five sub-scales.

The intercorrelations indicated a number of significant relationships between the total scores of items added to each of Hrynyk's five sub-scales. Significant relationships existed at the .01 level using a two-tailed test between the total score of items added to the Knowledge sub-scale, and total score of items added to each of the Colleague-Profession and Core-Organization sub-scales. The total score of the items added to the Core-Organization sub-scale also correlated at the .01 level of significance with the total scores of items added to the Colleague-Profession sub-scale, and items added to the Student-Autonomy sub-scale. The items added to the Service sub-scale were related at the .01 level of significance with items added to the Student-Autonomy sub-scale.

TABLE XII

CORRELATION COEFFICIENTS BETWEEN TOTAL SCORES OF
ITEMS ADDED TO HRYNYK'S SUB-SCALES
(N=245)

	Knowledge	Service	Core- Organization	Colleague- Profession	Student Autonomy	Total Additional Items
Knowledge	1.000					
Service	.136*	1.000				
Core-Organization	.221**	-.031	1.000			
Colleague-Profession	.275**	.096	.180**	1.000		
Student-Autonomy	-.023	.186**	.234**	-.012	1.000	
Total Additional Items	.558**	.507**	.653**	.491**	.516**	1.000

*Significant at the .05 level; $r_{.05} = .123$; two-tailed test.

**Significant at the .01 level; $r_{.01} = .161$; two-tailed test.

V. RELATIONSHIPS BETWEEN SCORES ON HRYNYK'S SUB-SCALES,
AND BETWEEN SCORES ON THE EXTENDED SUB-SCALES

Table XIII indicates the relationship between sub-scales on Hrynyk's PROS. A significant relationship existed between each sub-scale with the exception of the relationship between the Core-Organization and Student-Autonomy sub-scales.

Table XIV depicts the relationship found between each of the sub-scales on the extended PROS. Again, a significant relationship existed between each sub-scale with the exception of the relationship between the Core-Organization and Student-Autonomy sub-scales.

A comparison of Tables XIII and XIV reveals that with the extended sub-scales a stronger relationship as indicated by the size of the correlation coefficients existed between the Service and Student-Autonomy sub-scales, and between the Core-Organization and Colleague-Profession sub-scales as a result of adding four items to each sub-scale. There appeared to be less of a tendency for the Service and Core-Organization sub-scales to relate to one another after the items added had been included with each of the two respective sub-scales. All the relationships were, however, at the .01 level of significance using a two-tailed test.

TABLE XIII

CORRELATION COEFFICIENTS BETWEEN TOTAL SCORES ON HRYNYK'S SUB-SCALES
(N=245)

	Knowledge	Service	Core-Organization	Colleague-Profession	Student Autonomy	Total PROS
Knowledge	1.000					
Service	.313**	1.000				
Core-Organization	.304**	.266**	1.000			
Colleague-Profession	.283**	.167**	.234**	1.000		
Student-Autonomy	.205**	.300**	.038	.277**	1.000	
Total PROS	.652**	.675**	.677**	.561**	.534**	1.000

** Significant at the .01 level; $r_{.01} = .161$; two-tailed test.

TABLE XIV

CORRELATION COEFFICIENTS BETWEEN SCORES ON SUB-SCALES OF
THE EXTENDED PROFESSIONAL ROLE ORIENTATION SCALE
(N=245)

	Knowledge	Service	Core- Organization	Colleague- Profession	Student- Autonomy	Total Extended PROS
Knowledge	1.000					
Service	.379**	1.000				
Core-Organization	.334**	.207**	1.000			
Colleague-Profession	.363**	.234**	.343**	1.000		
Student-Autonomy	.186**	.406**	.102	.267**	1.000	
Total Extended PROS	.678**	.689**	.681**	.616**	.576**	1.000

**Significant at the .01 level; $r_{.01} = .161$; two tailed test.

VI. SUMMARY

This chapter outlined the findings of factor analyses on the extended PROS and on Hrynyk's PROS. The effect of placing the four additional items with each of Hrynyk's five sub-scales was analyzed and discussed in some detail.

The factor analysis of the responses of 245 teachers to 50 items on the extended PROS made it quite apparent that neither the extended Knowledge sub-scale nor the extended Colleague-Profession sub-scale were usable as independent sub-scales. In contrast, the extended Core-Organization sub-scale appeared to be relatively stable, meaningful, and independent. The extended Student-Autonomy and Service sub-scales appeared to be the next most effective.

Factor analysis of the responses of the same sample to the thirty items on Hrynyk's PROS revealed parallel findings. The Knowledge and Colleague-Profession sub-scales were the most difficult to identify. Again the Core-Organization sub-scale appeared to be the most independent and meaningful sub-scale. The next most independent were found to be the Service and Student-Autonomy sub-scales.

Generally it was found that the items added to the Knowledge, Core-Organization and Student-Autonomy sub-scales correlated the highest with Hrynyk's respective sub-scales.

CHAPTER V

ANALYSIS OF DATA

This chapter contains results of the analysis of data that relates to the hypotheses.

The statistical procedures were outlined in Chapter III. Tables XIX to XXI in Appendix A indicate homogeneity of variance tests on the variables selected for analysis. A significant departure from homogeneity of variance was found when testing for differences between means on general satisfaction scores. In this instance the Welch procedure was used in calculating the significance of t.

Hrynyk's Professional Orientation Scale (PROS) was used in the analysis of the data. Despite the fact that the extended PROS contained twenty more items, it appeared to be no more sensitive to detecting possible relationships. For instance, a correlation coefficient of .174 was found between teacher total scores on Hrynyk's PROS and years of professional training, whereas a correlation coefficient of .149 was found between teacher total scores on the extended PROS and years of professional training. This indicated that Hrynyk's PROS may be a better measure of professionalism. Similarly, the results of the factor analysis indicated that the items added to Hrynyk's sub-scales did not, in general, achieve more independent measures.

I. PROFESSIONAL ORIENTATION AND SATISFACTION
WITH HIERARCHICAL AUTHORITY

Hypothesis 1: Teachers whose professional orientation is high will be more satisfied with low levels of hierarchical authority within the school than teachers whose professional orientation is low.

Findings. As was previously indicated in Chapter III, teachers were classified into four categories, namely, (1) high satisfaction with low hierarchical authority, (2) high satisfaction with high hierarchical authority, (3) low satisfaction with low hierarchical authority, and (4) low satisfaction with high hierarchical authority.¹

A one-way analysis of variance was conducted on the mean professional orientation scores of the four groups of teachers classified by satisfaction with differing levels of hierarchical authority.

Table XV presents the results of the analysis of variance. The F test was not significant.

Discussion. On the basis of this finding the hypothesis, that teachers whose professional orientation is high will be more satisfied with low levels of hierarchical authority within the school than teachers whose professional orientation is low, cannot be accepted.

As previously indicated in Chapter Two, some support for the

¹Supra, p.38.

TABLE XV
ANALYSIS OF VARIANCE OF TEACHER TOTAL PROFESSIONAL
ORIENTATION SCORES CLASSIFIED ON THE BASIS OF
SATISFACTION WITH DIFFERING LEVELS
OF HIERARCHICAL AUTHORITY

Source	MS	DF	F	P
Between Groups	270.67	3	2.54	.057
Within Groups	106.39	241		

hypothesis was provided by previous research and literature.² For instance, Anderson suggests that professionals come to the school with expectations of independence and professional autonomy but find they must fulfil roles which include deference to hierarchical authority.³ In particular he found an increased dissatisfaction with administrative authority among teachers as they assumed a more professional orientation towards students.⁴ Robinson found that schools with high staff professional scores tended to de-emphasize hierarchical authority.⁵

Although this study failed to find support for the hypothesis postulated, it is perhaps significant to note as previously indicated in Table III, that 77 per cent of the total teachers in the sample were either classified as high in satisfaction with low hierarchical authority, or low in satisfaction with high hierarchical authority.

There were only 26 teachers who could be classified as falling into the category of teachers who had a high degree of satisfaction with high hierarchical authority.

²Supra, pp. 16-20.

³J. Anderson, "The Teacher: Bureaucrat or Professional?" Educational Administration Quarterly, III (Autumn, 1967), p. 292.

⁴Ibid., p. 297.

⁵N. Robinson, "A Study of the Professional Role Orientations of Teachers and Principals and Their Relationship to Bureaucratic Characteristics of School Organizations" (unpublished Doctoral dissertation, University of Alberta, Edmonton, 1966), p. 203.

It may be significant to note that both MacKay and Schmit found that teacher satisfaction with the organization was significantly reduced when authority relationships were of the bureaucratic type.^{6,7}

A number of reasons to account for the 30 teachers who fell into the category of teachers who expressed low satisfaction with low hierarchical authority could also be postulated. Common sense obviously dictates that some authority by the principal must be exercised in the school setting. Lack of direction could lead to extreme frustration for teachers in such areas as pupil behavior, pupil promotion, and supervision of instruction. It may be possible that some teachers in this category have neither the competence to make decisions for themselves nor do they desire to assume the responsibility for such decision-making. These differences in teacher reaction to hierarchical authority may have roots in personality factors, but attempting to account for them on these grounds is beyond the scope of the present study.

⁶D. A. MacKay, "Should Schools Be Bureaucratic?" The Canadian Administrator, IV (November, 1964), p. 7.

⁷D. Schmit, "A Study of Teacher Satisfaction in Relation to Professional Orientation and Perceived Hierarchical Authority in the School" (unpublished M.Ed. thesis, University of Alberta, Edmonton, 1968), p. 67.

II. PROFESSIONAL ORIENTATION AND SATISFACTION WITH PROCEDURAL SPECIFICATION

Hypothesis 2: Teachers whose professional orientation is high will be more satisfied with low levels of procedural specification within the school than teachers whose professional orientation is low.

Findings. As was previously indicated in Chapter Three, teachers were classified into four categories, namely, (1) high satisfaction with low procedural specification, (2) high satisfaction with high procedural specification, (3) low satisfaction with low procedural specification, and (4) low satisfaction with high procedural specification.⁸

A one-way analysis of variance was conducted on the mean professional orientation scores of the four groups of teachers classified by satisfaction with differing levels of procedural specification.

Table XVI presents the results of the analysis of variance and a Newman-Keuls comparison between the ordered means. The F test was significant at the .05 level. A Newman-Keuls comparison between the ordered means revealed a significant difference at the .05 level between the mean professional orientation scores of teachers classified as high in satisfaction with high procedural specification and teachers classified as low in satisfaction with high procedural specification.

No other significant differences between the mean professional

⁸Supra, p. 39.

TABLE XVI

ANALYSIS OF VARIANCE AND NEWMAN-KEULS COMPARISON BETWEEN PROFESSIONAL
ORIENTATION SCORES OF TEACHERS CLASSIFIED BY SATISFACTION WITH
LEVEL OF PROCEDURAL SPECIFICATION

Source	MS	DF	F	P
Between Groups	339.00	3	3.21	.023
Within Groups	105.54	241		
Groups	High Satisfaction High Procedural 2	High Satisfaction Low Procedural 1	Low Satisfaction Low Procedural 3	Low Satisfaction High Procedural 4
Ordered Means				
Low Satisfaction High Procedural	4 98.93	104.80	101.08	100.55
Low Satisfaction Low Procedural	3 100.55	5.87*	NS	NS
High Satisfaction Low Procedural	1 101.08	NS		
High Satisfaction High Procedural	2 104.80	NS		

*Significant at the .05 level.

orientation scores of other groups of teachers were found.

A secondary analysis of variance of mean scores on each of the five sub-scales revealed that the four groups of teachers differed only on Core-Organization. This analysis and the Newman-Keuls comparison between the ordered means presented in Table XVII revealed a significant difference at the .01 level between mean scores of teachers classified as high in satisfaction with high procedural specification, and teachers classified as low in satisfaction with high procedural specification. A significant difference at the .01 level of confidence between the mean Core-Organization scores of teachers classified as high in satisfaction with high procedural specification, and teachers classified as low in satisfaction with low procedural specification was also found to exist.

Table XXIII in Appendix A indicates that the F tests for the Knowledge, Service, Colleague-Profession, and Student-Autonomy sub-scales were not significant.

Discussion. On the basis of these findings, the hypothesis, that teachers whose professional orientation is high will be more satisfied with low levels of procedural specification within the school than teachers whose professional orientation is low, cannot be accepted.

The findings of this study indicated, in part, that teachers high in satisfaction with high procedural specification had a

TABLE XVII

ANALYSIS OF VARIANCE AND NEWMAN-KEULS COMPARISON BETWEEN CORE-ORGANIZATION
SCORES OF TEACHERS CLASSIFIED BY SATISFACTION WITH
LEVEL OF PROCEDURAL SPECIFICATION

Source	MS	DF	F	P
Between Groups	134.81	3	7.21	.0001
Within Groups	18.69	241		
Groups	High Satisfaction High Procedural 2	High Satisfaction Low Procedural 1	Low Satisfaction Low Procedural 3	Low Satisfaction High Procedural 4
Low Satisfaction High Procedural	4	18.06	21.51	20.03
Low Satisfaction Low Procedural	3	18.61	3.45**	NS
High Satisfaction Low Procedural	1	20.03	2.90**	NS
High Satisfaction High Procedural	2	21.51	NS	NS
Ordered Means				
Low Satisfaction High Procedural	4	18.06	21.51	20.03
Low Satisfaction Low Procedural	3	18.61	3.45**	NS
High Satisfaction Low Procedural	1	20.03	2.90**	NS
High Satisfaction High Procedural	2	21.51	NS	NS

** Significant at the .01 level.

significantly higher mean professional orientation score than did teachers who express low satisfaction with high procedural specification. This finding must be viewed with some caution because on only one sub-scale, namely, Core-Organization, was a significant difference found between these same two categories of teachers.

Apparently the scores that these teachers received on the Core-Organization sub-scale, items 21 to 26 of the Teacher Opinion Questionnaire in Appendix B, had a greater effect on their total professional orientation score than did any other sub-scale. The finding that the Core-Organization sub-scale appeared to be the most meaningful sub-scale as depicted in the factor analysis may be noteworthy.

It is extremely difficult to explain the finding that teachers classified as high in satisfaction with high procedural specification had a significantly higher mean Core-Organization score than teachers classified as low in satisfaction with low procedural specification. The fact that there was no significant difference found between these two groups in relation to mean professional orientation scores may suggest that this finding is of limited meaning. Further study would appear to be necessary for this finding to be validated.

Although this study failed to find support for the hypotheses postulated, it is perhaps significant to note as previously indicated in Table III, that 70 per cent of the total teachers in the sample were either classified as high in satisfaction with low procedural

specification, or low in satisfaction with high procedural specification. Only 45 teachers out of 245 could be classified as high in satisfaction with high procedural specification.

III. PROFESSIONAL ORIENTATION AND ITS RELATIONSHIP TO GENERAL SATISFACTION, AND GLOBAL SATISFACTION

This study was primarily concerned with professional orientation as it related to satisfaction of teachers with differing levels of hierarchical authority, and differing levels of procedural specification within the school. In addition to this concern, it was thought that the relationship between professional orientation and general satisfaction, as well as global satisfaction, would perhaps provide some related information that would be of value to the study.

As was indicated in the definitions, general satisfaction referred to the satisfaction that teachers expressed in relation to the combined characteristics of hierarchical authority and procedural specification. Global satisfaction referred to the expressed satisfaction of teachers in relation to broader aspects of teaching such as their relationships with other staff members, and satisfaction with teaching as a career.

For this analysis, teachers were divided into three groups on the basis of their total professional orientation scores. The middle one-third of teachers was then omitted from the sample. The

procedure for dividing the teachers on the basis of their scores was explained in Chapter III.⁹

Findings

Table XVIII presents the results of t tests calculated on the difference between mean general satisfaction scores, and between mean global satisfaction scores, of teachers classified according to professional orientation.

A significant difference at the .01 level of confidence between the mean general satisfaction scores of high professionally oriented teachers and low professionally oriented teachers was found.

It should be noted as indicated in Table XXI in Appendix A that general satisfaction scores indicated a departure from homogeneity of variance. Because of this, a Welch t approximation was conducted. The value of t was 2.98 and there were 144.6 degrees of freedom. This value was significant at the .01 level of confidence using a two-tailed test.

A significant difference at the .01 level of confidence was found between the two teacher groups in relation to their mean scores on the global satisfaction scale.

Discussion

On both the general satisfaction scale, which was constructed

⁹Supra, p.37.

TABLE XVIII
T TESTS FOR SCORES ON THE GENERAL SATISFACTION SCALE, AND GLOBAL SATISFACTION SCALE, OF TEACHERS CLASSIFIED ACCORDING TO PROFESSIONAL ROLE ORIENTATION

Variable	High Professional Orientation Mean	Low Professional Orientation Mean	Group 1 s.d.	Group 2 s.d.	df	<u>t</u>
General Satisfaction with Hierarchical Authority and Procedural Specification	86.48	79.47	13.06	16.04	153	2.986**
Global Satisfaction	16.29	14.55	2.55	2.80	153	4.019**

**Significant at the .01 level using a two-tailed test.

Note: The scores for General Satisfaction lacked homogeneity of variance but remained significant at the .01 level after the Welch t prime approximation was calculated.

for this study, and on the global satisfaction scale, which consisted of items taken from other satisfaction scales, highly professionally oriented teachers scored significantly higher than the less professionally oriented. This would appear to indicate that each instrument had discriminatory power. In addition it appears to suggest that teachers who expressed higher general satisfaction with hierarchy and procedural specification are more satisfied with the broader aspects of teaching. These broader aspects of teaching, as measured by the global satisfaction scale, included all aspects of their present teaching position, teaching as a career, the job their school was doing in educating its students, and the teacher's relationships with other staff members in their school.

Sergiovanni suggests that the factors which predominantly contribute to teacher satisfaction focus on the work itself.¹⁰ He identifies these factors as achievement, recognition, and responsibility.

If this is true, high professionally oriented teachers, who are significantly more satisfied than low professionally oriented teachers, may be receiving more recognition, may have greater opportunities for achievement, and may be given more responsibility than their counterparts.

¹⁰T. Sergiovanni, "Factors Which Affect Satisfaction and Dissatisfaction of Teachers," The Journal of Educational Administration, V (May, 1967), pp. 66-82.

V. SUMMARY

Hypothesis 1 was not accepted. Little evidence was found to indicate that teachers whose professional orientation is high would be more satisfied with low levels of hierarchical authority within the school than teachers with low professional orientations.

From the classification of the 245 teacher responses which indicated their satisfaction with differing levels of hierarchical authority, it was found that 92 teachers were high in satisfaction with low hierarchical authority; 26 teachers were high in satisfaction with high hierarchical authority; 97 teachers were low in satisfaction with high hierarchical authority; and 30 teachers were low in satisfaction with low hierarchical authority.

Hypothesis 2 was not accepted. Little evidence was found to indicate that teachers whose professional orientation is high would be more satisfied with low levels of procedural specification within the school than teachers with low professional orientations.

The findings of this study indicated, in part, that teachers classified as high in satisfaction with high procedural specification had a significantly higher mean professional orientation score than did teachers classified as low in satisfaction with high procedural specification. This finding must be viewed with some caution because on only one sub-scale, namely Core-Organization, was there found to be a significant difference between these same two categories of teachers.

From the classification of 245 teacher responses which indicated

referred to

their satisfaction with differing levels of procedural specification, it was found that 85 teachers were high in satisfaction with low procedural specification; 45 teachers were high in satisfaction with high procedural specification; 31 teachers were low in satisfaction with low procedural specification; and 84 teachers were low in satisfaction with high procedural specification.

Teachers high in professional orientation were found to have a significantly higher mean general satisfaction score than teachers low in professional orientation.

Similarly, high professionally oriented teachers had significantly higher mean global satisfaction scores than low professionally oriented teachers.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

I. SUMMARY

The Problem

The central problem of this thesis was to determine the relationship between the professional orientation of teachers and their satisfaction with selected aspects of school organization.

An attempt was made to add meaningful items to each of Hrynyk's sub-scales. Factor analysis was performed on Hrynyk's PROS, and on the extended PROS for comparison purposes.

Using Hrynyk's PROS an attempt was then made to determine what relationship existed between professional orientation of teachers, and (1) their satisfaction with differing levels of hierarchical authority, and (2) their satisfaction with differing levels of procedural specification within the school.

In more general terms, the relationship of professional orientation to general satisfaction with the combined organizational characteristics of hierarchical authority and procedural specification was studied. A further analysis of the relationship between professional orientation and global satisfaction with the broader aspects of teaching was performed.

The Sample

Teachers and schools in this study were selected from four

sub-urban school systems.

Sixteen schools representing a variety of grade levels were included in the study.

The sample comprised 300 teachers who taught 50 per cent of more of the school day. Principals and vice-principals were not included.

Instrumentation

The Teacher Opinion Questionnaire was an extension of Hrynyk's Professional Role Orientation Scale (PROS). It consisted of fifty items having a Likert type of format with five response alternatives for each item. This instrument was used in an attempt to measure the extent to which a teacher conformed to the teaching profession's expectations of a professional. Five sub-scales measuring teacher orientation to knowledge, service, core-organization, colleague-profession, and student-autonomy comprised the total scale.

The Organizational Inventory and Satisfaction Scale consisted of twelve items measuring hierarchical authority and ten items measuring procedural specification. Twelve satisfaction items were related to hierarchical authority, and ten satisfaction items were related to procedural specification. The twenty-two satisfaction items provided a measure of general satisfaction with hierarchical authority and procedural specification.

A measure of the global satisfaction of teachers with the broader aspects of teaching was obtained from responses to a four item Global Satisfaction Scale.

Data Collection

Superintendents and principals granted permission to distribute questionnaires to teachers in the schools chosen for study. A staff member in each school was designated to distribute and collect the questionnaires.

Arrangements were made to obtain the completed questionnaires within a week. Follow-up visits to each school were made by the researcher in person to ensure a good return of questionnaires.

A total of 245 usable questionnaires was received, which represented a 81.6 per cent return. Eleven questionnaires were incomplete and classified as non-usable. One questionnaire was received too late to be included in the analysis.

Statistical Procedure

Three major statistical procedures were employed in the analysis of the data. Factor analysis utilizing a varimax rotation was used to determine the factorial validity of each of sub-scales on the PROS and on the extended PROS. One-way analysis of variance was employed to test the significance of the hypotheses. Finally, t tests were employed to test other variables in the study.

Results

1. The factor analysis on the extended PROS and on Hrynyk's PROS was conducted not only to determine the independence of each sub-scale but also to determine what effect the added items were having on Hrynyk's original sub-scales. The factor analysis of the

245 teacher responses on the extended PROS revealed a lack of meaningful independence between the Knowledge and the Colleague-Profession sub-scales. This was partially due to the effect of the added Colleague-Profession items which seemed to relate more to Hrynyk's Service and Core-Organization sub-scales than to his Colleague-Profession sub-scale. Similarly, the additional items to the Service sub-scale appeared to relate more to Hrynyk's Student-Autonomy items than to his Service items. The Core-Organization, Student-Autonomy, and Service sub-scales appeared to be the best independent sub-scales although even here there was a tendency for items on the Student-Autonomy, and Service sub-scales to load on the same factor. Factor analysis of Hrynyk's PROS revealed a strong interrelationship between the Knowledge and the Colleague-Profession items. Hrynyk's Core-Organization, Service and Student-Autonomy sub-scales appeared to be his most independent sub-scales.

2. Hypothesis 1, that teachers whose professional orientation is high will be more satisfied with low levels of hierarchical authority within the school than teachers whose professional orientation is low, was not accepted.

3. Hypothesis 2, that teachers possessing high professional orientations will be more satisfied with low levels of procedural specification within the school than teachers with low professional orientations, was not accepted.

In testing Hypothesis 2, teachers classified as high in satisfaction with high procedural specification tended to have a significantly higher mean professional orientation score than did teachers who indicated a low satisfaction with high procedural specification. This finding must be viewed with some caution because on only one sub-scale, namely Core-Organization, was there found to be a significant difference between these same two categories of teachers.

There were no statistical differences between the mean scores that the four groups of teachers received on the Knowledge, Service, Colleague-Profession, and Student-Autonomy sub-scales.

4. An analysis of the general satisfaction scores indicated that teachers with a high professional orientation had a higher general satisfaction with hierarchical authority and procedural specification than did low professionally oriented teachers.

5. Similarly, an analysis of the global satisfaction scores revealed that teachers with a high professional orientation had significantly higher global satisfaction with the broader aspects of teaching than did low professionally oriented teachers.

II. CONCLUSIONS

On the basis of the results, the following conclusions for the present sample are valid.

1. The attempt to provide longer and more independent sub-scales was generally unsuccessful with the dimensions of Knowledge

and Colleague-Profession. Furthermore, only limited success was achieved with the Student-Autonomy and Service dimensions. The Core-Organization dimension appeared to be the most effective extended sub-scale.

2. High professionally oriented teachers do not appear to be significantly more satisfied with low hierarchical authority than teachers with low professional orientations.

3. Teachers high in satisfaction with high procedural specification had higher professional orientations than teachers low in satisfaction with high procedural specification. This finding must be viewed cautiously because on only one sub-scale, namely, Core-Organization, was there found to be a significant difference between the same two categories of teachers.

4. Teachers with a high professional orientation had significantly higher general satisfaction with hierarchical authority and procedural specification than did low professionally oriented teachers.

5. Teachers with a high professional orientation were found to have significantly higher global satisfaction scores than teachers low in professional orientation. Global satisfaction related to all aspects of teaching. This included satisfaction with their present teaching position, teaching as a career, the job their school was doing in educating its pupils, and with their relationships with other staff members.

III. IMPLICATIONS

The findings of this study suggest a number of implications for school principals and the need for future research.

Implications for School Principals

Although no conclusive evidence exists that job satisfaction leads to increased productivity, there appears to be a distinct possibility that this relationship does hold. Principals should be cognizant of this fact and attempt to provide increased opportunities for teachers to become more satisfied. Possible ways for principals to increase teacher satisfaction may be through providing increased amounts of teacher responsibility in decision-making, creating greater opportunities for teacher achievement, and giving more recognition to the role that the teacher performs within the school setting.

This study found that a substantial percentage of teachers were classified as low in satisfaction with high hierarchical authority. Equally noteworthy is the finding that a considerable percentage of teachers were classified as high in satisfaction with low hierarchical authority. On the basis of these two findings, and MacKay's¹ finding that a high degree of hierarchical authority was associated with a low effectiveness rating of the school, it would appear important that the principal reflect on the level of hierarchy that is present in his school.

Although this study found some evidence to indicate

¹Supra, p. 18.

that teachers classified as high in satisfaction with high procedural specification had higher professional orientations, a substantial percentage of teachers were classified as either low in satisfaction with high procedural specification or high in satisfaction with low procedural specification. The principal should review the procedures that exist within the school to ensure their necessity.

Implications for Further Research

The findings of this study require further research into other variables that may affect a teacher's satisfaction with hierarchical authority and procedural specification within the school setting.

Perhaps one of the reasons for the higher general satisfaction among teachers with high professional orientations is that the principal does make an attempt to treat his more professionally oriented teachers differently than his less professionally oriented personnel. In addition, it may be possible that high professionally oriented teachers perceive hierarchical authority and procedural specification in a different manner than do low professionally oriented teachers. Validation of these explanations requires further research.

Further research is needed on the extended Professional Role Orientation Scale and on Hrynyk's PROS to produce five independent and meaningful sub-scales. Hrynyk's definitions for each of his sub-scales should be examined and an attempt made to purify them. The definitions for the Knowledge and Colleague-Profession dimensions are especially in need of close scrutiny. Attention must also be

focussed on the definitions for Core-Organization and Colleague-Profession dimensions. Some difficulty was experienced in attempting to establish a distinction between them. Further study is required to produce an independent Service sub-scale. A future study that would focus primarily on the improvement of PROS would seem to be needed.

Wehling and Charters suggest that heterogeneity is a more critical population feature for factor analytic studies than is representativeness.² If this is true, then perhaps future teacher samples used for further research on the professional orientations of teachers should reflect this population feature. Only those items which remain stable following repeated analyses should be retained.

As has been suggested by MacKay, the typology of teachers on the basis of professional role orientation is but one of several classifications.³ A particular study could explore the relationship between teacher professionalism and the teacher "stances" suggested by Corman and Olmstead.⁴ Several parallels between the sub-scales on the professional role orientation scale and various teacher stances could be analyzed. The teacher stances provide a useful means of thinking about the kinds of teachers that are part of the teaching profession. For instance, "The Child Focusers" would be comparable

²L. Wehling and W. Charters, "Dimensions of Teacher Beliefs About the Teaching Process," American Educational Research Journal, VI (January, 1969), p. 10.

³D. A. MacKay, "Teachers: Employees or Professionals?" The Alberta School Principal, (Summer, 1967), pp. 39-45.

⁴Ibid., p. 39.

to teachers that could be classified as "Service-Oriented" using Hrynyk's PROS. Additional items and sub-scales could perhaps be added to Hrynyk's PROS after an examination of Corman and Olmstead's typology.

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APPENDIX A

TABLES

TABLE XIX

HOMOGENEITY OF VARIANCE TEST ON SELECTED VARIABLES FOR
TEACHERS CLASSIFIED BY DEGREE OF SATISFACTION
WITH LEVEL OF HIERARCHICAL AUTHORITY

Variable	CHISQ	Probability
Knowledge	2.784	.426
Service	.458	.928
Core-Organization	2.077	.557
Colleague-Profession	.328	.955
Student-Autonomy	1.001	.801
Total PROS	.978	.807

TABLE XX

HOMOGENEITY OF VARIANCE TEST ON SELECTED VARIABLES FOR
TEACHERS CLASSIFIED BY DEGREE OF SATISFACTION
WITH LEVEL OF PROCEDURAL SPECIFICATION

Variable	CHISQ	Probability
Knowledge	1.002	.801
Service	3.556	.314
Core-Organization	6.687	.083
Colleague-Profession	.468	.926
Student-Autonomy	7.663	.054
Total PROS	3.927	.270

TABLE XXI
F TEST-DIFFERENCES BETWEEN VARIANCES ON SELECTED VARIABLES FOR
SCORES OF TEACHERS CLASSIFIED BY PROFESSIONAL ORIENTATION

Variable	High Professional Orientation	Low Professional Orientation	Group 1	Group 2	F
	Variance	Variance	df	df	
General Satisfaction with Hierarchical Authority and Procedural Specification	170.63	257.25	78	75	1.508*
Global Satisfaction	6.51	7.83	78	75	1.202

*Significant at the .05 level.

TABLE XXII

ANALYSIS OF VARIANCE OF TEACHER SUB-SCALE SCORES ON THE
PROFESSIONAL ROLE ORIENTATION SCALE CLASSIFIED
BY DEGREE OF SATISFACTION WITH LEVEL
OF HIERARCHICAL AUTHORITY

Variable	MS ^a	MS ^b	DF ^a	DF ^b	F	P
Knowledge	13.96	8.76	3	241	1.59	.19
Service	6.04	12.90	3	241	.47	.70
Colleague- Profession	11.17	6.30	3	241	1.77	.15
Student- Autonomy	8.48	9.08	3	241	.93	.43

^aBetween Groups; ^bWithin Groups.

TABLE XXIII
ANALYSIS OF VARIANCE OF TEACHER SUB-SCALE SCORES ON THE
PROFESSIONAL ROLE ORIENTATION SCALE CLASSIFIED
BY DEGREE OF SATISFACTION WITH LEVEL
OF PROCEDURAL SPECIFICATION

Variable	MS ^a	MS ^b	DF ^a	DF ^b	F	P
Knowledge	4.08	8.88	3	241	.46	.71
Service	26.23	12.64	3	241	2.07	.10
Colleague- Profession	3.75	6.39	3	241	.59	.62
Student- Autonomy	1.48	9.17	3	241	.16	.92

^aBetween Groups; ^bWithin Groups.

APPENDIX B
CORRESPONDENCE AND QUESTIONNAIRE

Dear Teacher:

At the present time I am a graduate student in the Department of Education Administration at the University of Alberta. For my thesis I am investigating the relationship among selected teacher opinions, selected school organizational characteristics and teacher satisfaction.

This study has the approval of your superintendent and school principal. Results will be analyzed by computer, and reported in general form only, without reference to specific schools or teachers. You are assured that your replies will be treated in strictest confidence and used only for the purpose of providing information for this study.

Please answer the questions as frankly and as accurately as possible. The questionnaire should take less than twenty-five minutes of your time, and I would appreciate your immediate consideration.

Please place the completed questionnaire in the envelope provided, seal it, and return it to the staff member designated to collect the envelopes. I will obtain the envelopes from him when I visit your school within the next few days.

May I extend my thanks in anticipation of your co-operation.

Sincerely yours,

QUESTIONNAIRE

All information given in this questionnaire will be held in strictest confidence.

Please answer ALL questions

I. PERSONAL DATA

Check the appropriate answer for each item.

1. Sex
 - ☐ (a) male
 - ☐ (b) female
2. Marital Status
 - ☐ (a) married
 - ☐ (b) single
 - ☐ (c) other
3. Age
 - ☐ (a) less than 25 years
 - ☐ (b) 25 to 29 years
 - ☐ (c) 30 to 35 years
 - ☐ (d) 36 to 45 years
 - ☐ (e) 46 to 55 years
 - ☐ (f) over 55 years
4. Total number of years of teaching experience
(include this year as one.)
 - ☐ (a) 1 year
 - ☐ (b) 2 years
 - ☐ (c) 3 to 4 years
 - ☐ (d) 5 to 9 years
 - ☐ (e) 10 to 19 years
 - ☐ (f) 20 years or more
5. Teaching duties
(50% of the time or more)
 - ☐ (a) elementary (grades one to six)
 - ☐ (b) junior high (grades seven to nine)
 - ☐ (c) senior high (grades ten to twelve)
6. Total number of years of academic and professional training beyond high school.
 - ☐ (a) 1 year or less in a Normal School, Teachers' College, or university.
 - ☐ (b) 2 complete years but less than 3 in a university and/or Teachers' College.
 - ☐ (c) 3 complete years but less than 4 in a university and/or Teachers' College.
 - ☐ (d) 4 complete years but less than 5 in a university and/or Teachers' College.
 - ☐ (e) 5 complete years but less than 6 in a university and/or Teachers' College.
 - ☐ (f) 6 or more complete years in a university and/or Teachers' College.

II. TEACHER OPINION QUESTIONNAIRE

Please indicate the degree to which you agree or disagree with each statement below by circling the appropriate response. As your first reactions are important, please answer each item whether or not you feel you have enough information to do so.

There are five possible answers for each statement. They are:

Strongly agree (SA)		Disagree (D)
	Undecided (U)	
Agree (A)		Strongly Disagree (SD)

Please work rapidly and circle only one response for each statement.

- | | | | | | |
|---|----|---|---|---|----|
| 1. It is vital to his effectiveness that a teacher should possess a thorough knowledge of his subject matter. | SA | A | U | D | SD |
| 2. Teachers should be evaluated primarily on the basis of their ability to communicate knowledge. | SA | A | U | D | SD |
| 3. Persons should be allowed to teach in Alberta even if their total education is less than that required for a B.ED. | SA | A | U | D | SD |
| 4. Persons who do not meet the present Alberta certification requirements should be allowed to teach because of the teacher shortage. | SA | A | U | D | SD |
| 5. A teacher's practice should be based primarily on his acquaintance with educational literature and research. | SA | A | U | D | SD |
| 6. Knowledge of educational theory is vital for effective teaching. | SA | A | U | D | SD |
| 7. The teaching field should extend its body of knowledge through research. | SA | A | U | D | SD |
| 8. The preparation of a teacher requires study of the methods of teaching. | SA | A | U | D | SD |
| 9. Teachers possessing permanent teaching certificates do not need inservice training. | SA | A | U | D | SD |

10.	All instructional activities in a school must be either provided by or under the immediate supervision of a certified teacher.	SA	A	U	D	SD
11.	Teachers should not be expected to give after-hours instruction to pupils who are not doing well in their school work.	SA	A	U	D	SD
12.	I would rather teach than do anything else for a living.	SA	A	U	D	SD
13.	Because of what I am able to do for society, I would continue to teach even if I could earn more money at another vocation.	SA	A	U	D	SD
14.	A teacher should be prepared to devote the whole of his working lifetime to the occupation of teaching.	SA	A	U	D	SD
15.	A teacher should encourage as many of his students as possible to enter teaching as a vocation.	SA	A	U	D	SD
16.	A teacher should promote what he deems to be needed social changes through his contact with students in schools.	SA	A	U	D	SD
17.	Teaching provides a service essential to the survival of society.	SA	A	U	D	SD
18.	Teachers suspended by their school board because of disagreement over salary or working conditions should attempt to give instruction to pupils writing Departmental Examinations.	SA	A	U	D	SD
19.	A teacher's service to pupils should continue even when teachers are on strike over salary or working conditions.	SA	A	U	D	SD
20.	The first concern of a teacher should be service to students.	SA	A	U	D	SD
21.	Membership in The Alberta Teachers' Association should be more important to teachers than membership in most other organizations to which they belong.	SA	A	U	D	SD

22.	I do not feel that I am a real integral part of the provincial teachers' association.	SA	A	U	D	SD
23.	If I had the choice I would not belong to the Alberta Teachers' Association at the provincial level.	SA	A	U	D	SD
24.	Only the A.T.A. should speak for all teachers on professional matters.	SA	A	U	D	SD
25.	In case of a dispute between The Alberta Teachers' Association, at the provincial level, and some other authority or agency, the teacher owes his prime loyalty to the A.T.A.	SA	A	U	D	SD
26.	The Alberta Teachers' Association is the best body to oversee the enforcement of a code of ethics for teachers.	SA	A	U	D	SD
27.	The provincial teachers' association should be the body which certifies and decertifies teachers.	SA	A	U	D	SD
28.	The Alberta Teachers' Association should have the right to rule on the admission of a teacher into the profession.	SA	A	U	D	SD
29.	Teacher organizations should advise on all matters of federal, provincial, and local education finance.	SA	A	U	D	SD
30.	The Alberta Teachers' Association should have the right to share in the decisions affecting the nature of the program for the preparation of teachers.	SA	A	U	D	SD
31.	Teachers should try to live up to what they think are the standards of the profession even if the administration or the community does not seem to respect these same standards.	SA	A	U	D	SD
32.	The degree of respect that it commands from other teachers around the province is not a major criterion of a good school.	SA	A	U	D	SD

33.	Teachers should subscribe to and read the major professional journals	SA	A	U	D	SD
34.	A teacher should not try to put what he believes to be standards and ideals of good teaching into practice if the procedures of the school prohibit them.	SA	A	U	D	SD
35.	A teacher should be a member of at least one specialist council and should take an active part in it.	SA	A	U	D	SD
36.	A teacher should not give more consideration to the views of other teachers than to those of the public.	SA	A	U	D	SD
37.	The preparation of a teacher for initial certification requires instruction in ethics and standards of acceptable conduct.	SA	A	U	D	SD
38.	The mental and physical health of prospective teachers should be taken into account when screening applicants for admittance into the Faculty of Education.	SA	A	U	D	SD
39.	Secondary teachers should be paid more than elementary teachers assuming equivalent education and experience.	SA	A	U	D	SD
40.	A teacher should be given full credit for past teaching experience when applying for a new teaching position.	SA	A	U	D	SD
41.	Unless a teacher is satisfied that it is best for the student, a teacher should not do anything which someone else tells him to do.	SA	A	U	D	SD
42.	A teacher should not do anything that may jeopardize the interests of his students, regardless of who gives the directive or what school rules state.	SA	A	U	D	SD
43.	Small matters should not have to be referred to someone higher up for a final answer.	SA	A	U	D	SD

44.	The ultimate authority over the major educational decisions should be exercised by qualified teachers.	SA	A	U	D	SD
45.	Decisions concerning textbooks, references and courses of study should be made by teachers or groups of teachers and not by the Department of Education.	SA	A	U	D	SD
46.	Teachers should not be any more concerned than they are at present about the adequacy of the schools' program for all students.	SA	A	U	D	SD
47.	The choice of techniques and processes whereby the aims of education are realized in the school is the responsibility of teachers.	SA	A	U	D	SD
48.	The Department of Education should retain the right to set examinations.	SA	A	U	D	SD
49.	Classroom teachers should have the final decision regarding the use of educational television programs in classrooms.	SA	A	U	D	SD
50.	Teachers should have the final decision regarding the content of programs for students.	SA	A	U	D	SD

III. ORGANIZATIONAL INVENTORY AND SATISFACTION SCALE

In this questionnaire you are requested to indicate how well each statement describes the organizational characteristics of your school.

There are five possible answers for each statement. They are:

Definitely true	(DT)		Partially false	(PF)
		Undecided	(U)	
Partially true	(PT)		Definitely false	(DF)

In addition you are requested to indicate your degree of satisfaction with the way in which your school is organized.

There are five possible answers for each statement. They are:

Very satisfied	(VS)		Dissatisfied	(D)
Satisfied	(S)	Satisfied in some ways; not in others(?)	Very dissatisfied	(VD)

Circle one answer for "a", and circle one answer for "b" in each case.

1. I feel that I am my own boss in most matters.

(a) How true is this for you in your present school?	DT	PT	U	PF	DF
(b) How satisfied are you in this regard?	VS	S	?	D	VD
2. A person can make his own decisions without checking with anyone else.

(a) How true is this in your school?	DT	PT	U	PF	DF
(b) How satisfied are you in this regard?	VS	S	?	D	VD
3. No one can get necessary supplies without permission from the principal or vice-principal.

(a) How true is this in your school?	DT	PT	U	PF	DF
(b) How satisfied are you in this regard?	VS	S	?	D	VD
4. Each staff member is responsible to an administrator, to whom he (she) regularly reports.

(a) How true is this in your school?	DT	PT	U	PF	DF
(b) How satisfied are you in this regard?	VS	S	?	D	VD

5. There can be little action until an administrator approves a decision.
- | | | | | | |
|---|----|----|---|----|----|
| (a) How true is this in your school? | DT | PT | U | PF | DF |
| (b) How satisfied are you in this regard? | VS | S | ? | D | VD |
6. How things are done in the classroom is left pretty much up to the individual teacher.
- | | | | | | |
|---|----|----|---|----|----|
| (a) How true is this in your school? | DT | PT | U | PF | DF |
| (b) How satisfied are you in this regard? | VS | S | ? | D | VD |
7. Staff members of this school always get their orders from higher up.
- | | | | | | |
|---|----|----|---|----|----|
| (a) How true is this in your school? | DT | PT | U | PF | DF |
| (b) How satisfied are you in this regard? | VS | S | ? | D | VD |
8. Any decision I make has to have my superior's approval.
- | | | | | | |
|---|----|----|---|----|----|
| (a) How true is this in your school? | DT | PT | U | PF | DF |
| (b) How satisfied are you in this regard? | VS | S | ? | D | VD |
9. A person who wants to make his own decisions would quickly become discouraged in this school.
- | | | | | | |
|---|----|----|---|----|----|
| (a) How true is this in your school? | DT | PT | U | PF | DF |
| (b) How satisfied are you in this regard? | VS | S | ? | D | VD |
10. Even small matters have to be referred to someone higher up for a final answer.
- | | | | | | |
|---|----|----|---|----|----|
| (a) How true is this in your school? | DT | PT | U | PF | DF |
| (b) How satisfied are you in this regard? | VS | S | ? | D | VD |
11. Staff members here are allowed to do almost as they please.
- | | | | | | |
|---|----|----|---|----|----|
| (a) How true is this in your school? | ST | PT | U | PF | DF |
| (b) How satisfied are you in this regard? | VS | S | ? | D | VD |

12. I have to ask the principal before I do almost anything.
- | | | | | | |
|---|----|----|---|----|----|
| (a) How true is this in your school? | DT | PT | U | PF | DF |
| (b) How satisfied are you in this regard? | VS | S | ? | D | VD |
13. Whatever situation arises, we have procedures to follow in dealing with it.
- | | | | | | |
|---|----|----|---|----|----|
| (a) How true is this in your school? | DT | PT | U | PF | DF |
| (b) How satisfied are you in this regard? | VS | S | ? | D | VD |
14. Teachers are often left to their own judgement as to how to handle problems.
- | | | | | | |
|---|----|----|---|----|----|
| (a) How true is this in your school? | DT | PT | U | PF | DF |
| (b) How satisfied are you in this regard? | VS | S | ? | D | VD |
15. Most of us are encouraged to use our own judgement.
- | | | | | | |
|---|----|----|---|----|----|
| (a) How true is this in your school? | DT | PT | U | PF | DF |
| (b) How satisfied are you in this regard? | VS | S | ? | D | VD |
16. The same procedures are to be followed in most situations.
- | | | | | | |
|---|----|----|---|----|----|
| (a) How true is this in your school? | DT | PT | U | PF | DF |
| (b) How satisfied are you in this regard? | VS | S | ? | D | VD |
17. The use of a wide variety of teaching methods and materials is encouraged in this school.
- | | | | | | |
|---|----|----|---|----|----|
| (a) How true is this in your school? | DT | PT | U | PF | DF |
| (b) How satisfied are you in this regard? | VS | S | ? | D | VD |
18. Red tape isn't often a problem in getting a job done.
- | | | | | | |
|---|----|----|---|----|----|
| (a) How true is this in your school? | DT | PT | U | PF | DF |
| (b) How satisfied are you in this regard? | VS | S | ? | D | VD |

19. Going through the proper channels is constantly stressed.

(a) How true is this in your school? DT PT U PF DF

(b) How satisfied are you in this regard? VS S ? D VD

20. We are to follow strict operating procedures at all times.

(a) How true is this in your school? DT PT U PF DF

(b) How satisfied are you in this regard? VS S ? D VD

21. Whenever we have a problem, we are supposed to go to the same person for an answer.

(a) How true is this in your school? DT PT U PF DF

(b) How satisfied are you in this regard? VS S ? D VD

22. There is only one way to do the job--the Principal's way.

(a) How true is this in your school? DT PT U PF DF

(b) How satisfied are you in this regard? VS S ? D VD

IV. GLOBAL SATISFACTION.

In this questionnaire you are requested to indicate your satisfaction within the context of teaching in more global terms. There are five possible alternative answers for each statement. They are as follows:

Very satisfied	(VS)		Dissatisfied	(D)
Satisfied	(S)	Satisfied in some ways; not in others	(?) Very dissatisfied	(VD)

Circle one answer for each item

1. How well satisfied are you with your present teaching position in all its aspects?

VS S ? D VD

2. How well satisfied are you with teaching as a career (regardless of your satisfaction or dissatisfaction with your present position)?

VS S ? D VD

3. How well satisfied are you with the total job your school does in educating the students who come to it (compared with other schools known to you) ?

VS S ? D VD

4. How well satisfied are you with the relationships you have with other staff members in your school?

VS S ? D VD

THANK YOU FOR YOUR CO-OPERATION.

B29929